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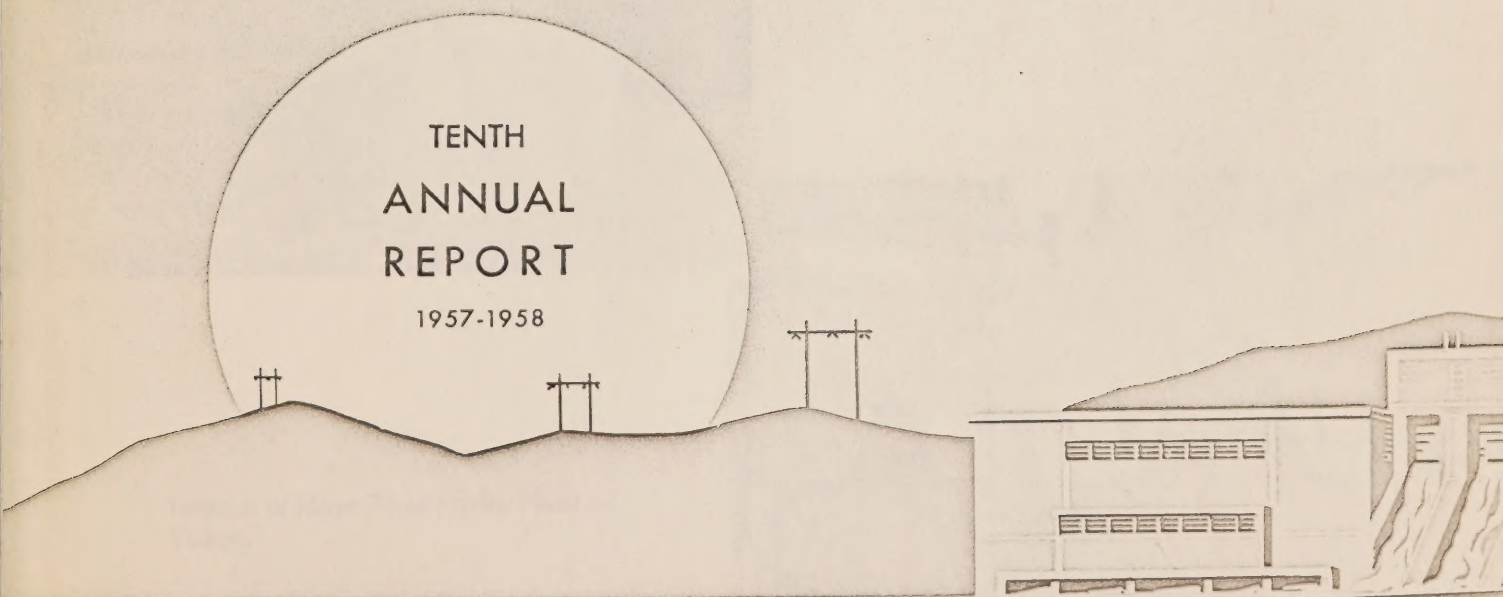
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NORTHERN CANADA POWER COMMISSION



TENTH
ANNUAL
REPORT

1957-1958





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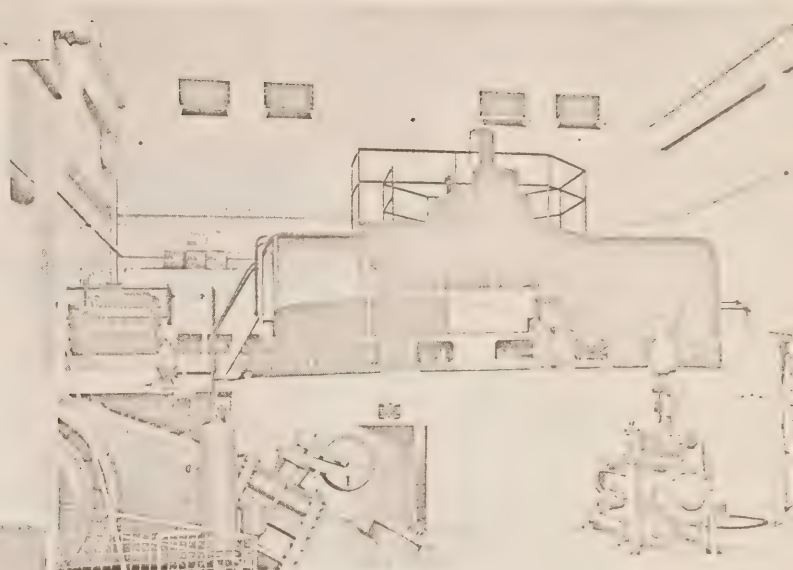
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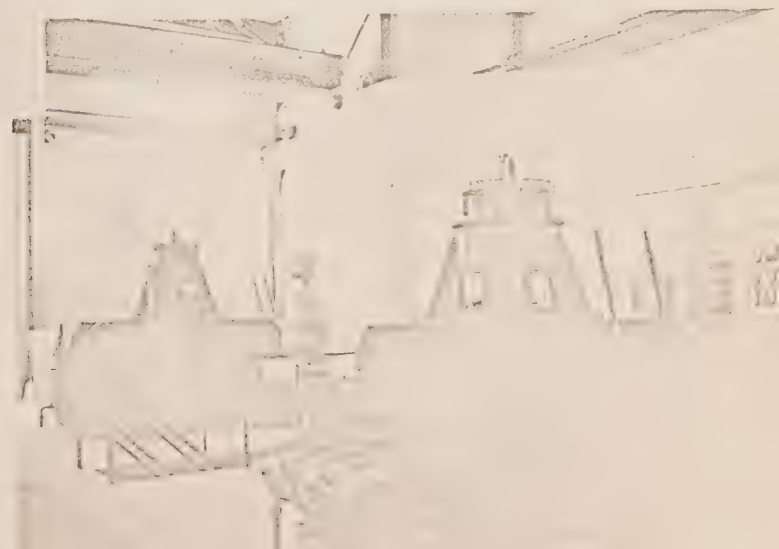


Mayo River Hydro-Electric Plant, No.
2 Unit extension — Turbine Scroll
Case being lifted into position.

Snare Rapids Hydro-Electric Plant —
Interior view of Powerhouse.



Spillway at Mayo River Hydro Plant —
Yukon.



Interior of Mayo River Hydro Plant —
Yukon.

GOVERNMENT OF CANADA

Northern Canada Power Commission

ANNUAL REPORT
OF THE
NORTHERN CANADA POWER COMMISSION
FOR THE FISCAL YEAR ENDED
March 31, 1958

OTTAWA, CANADA

Northern Canada Power Commission

June 27, 1958.

The Honourable Alvin Hamilton, M.P.,
Minister of Northern Affairs and National Resources,
Ottawa, Ontario.

Dear Sir,

I beg to submit herewith the report of the Northern Canada Power Commission for the fiscal year ending March 31, 1958, as required under Section 24 of the Northern Canada Power Commission Act, Chapter 42, 4-5, Eliz. II.

Respectfully submitted,

(Sgd.) R. G. ROBERTSON

R. G. ROBERTSON,
Chairman.

For the first time
and not for the first

by the author

Northern Canada Power Commission

1957-58

R. G. Robertson	. . . . .	Chairman
G. E. Lowe	. . . . .	Member
T. M. Patterson	. . . . .	Member
E. W. Humphrys	. . . . .	General Manager-Chief Engineer
T. A. Stott	. . . . .	Secretary-Comptroller

**ANNUAL REPORT
OF THE
NORTHERN CANADA POWER COMMISSION
FOR THE FISCAL YEAR ENDED
March 31, 1958
OTTAWA, CANADA**

The Northern Canada Power Commission operates under authority of Act of Parliament (4-5 Eliz. II, Chapter 42). The Commission is empowered to construct and operate public utility plants in the Northwest Territories and Yukon Territory and, subject to approval of the Governor General-in-Council, in any other part of Canada. The Act requires that projects undertaken by the Commission shall be self-sustaining, and consequently the rates charged for utilities supplied must provide sufficient revenue to cover interest on investment, repayment of principal over a period of years, operating and maintenance expenses and the setting up of a contingency reserve. The Commission is thus a Federal Government Agency concerned with the construction and management of public utilities on a commercial basis.

Since its inception the Commission has acquired and operates the following plants:

- (i) Snare River Power Plant, N.W.T.—an 8,350 H.P. hydro-electric development situated some ninety miles north-west of Yellowknife, N.W.T., on the Snare River, with a 115,000 volt transmission line to a terminal station located near Yellowknife. This plant was placed in operation in September 1948, and an inter-connection with the Bluefish Hydro-Electric Plant of the Consolidated Mining & Smelting Company Limited was established in 1949. Power is supplied to mines in the Yellowknife area and to a privately owned company for retail distribution within the municipality of Yellowknife.
- (ii) Fort Smith Plant, N.W.T.—a 1,640 H.P. diesel electric plant and distribution system which was placed in service in October 1950 to supply for the Fort Smith, N.W.T. settlement on a retail basis. The original 520 H.P. plant was enlarged to 925 H.P. in 1955 and then to its present capacity in 1957.

- (iii) Mayo River Power Plant, Y.T.—a 6,000 H.P. hydro-electric plant with a 69,000 volt transmission line approximately 32 miles in length and some 5 miles of 6,900 volt line. The generating station is situated on the Mayo River at a point approximately five miles north of the settlement of Mayo Landing and some 265 miles north of the City of Whitehorse. This plant was placed in operation in November 1952 and was enlarged in 1957. It provides power for various mining properties in the Elsa and Keno areas, the community of Mayo Landing, and to a privately owned distribution system serving the community of Keno City.

- (iv) Fort Simpson Plant, N.W.T.—a 375 H.P. diesel electric plant and distribution system which was placed in service in October 1956 to supply power on a retail basis to the settlement of Fort Simpson, N.W.T.

SNARE RIVER HYDRO POWER PLANT

Power generated during the year totalled 46,050,000 KWHrs. which represents an increase of approximately 10% over the previous year. Sales of primary power increased by approximately 14% over the previous year to total 39,400,000 KWHrs.; the balance was accounted for by transmission losses and 5,175,000 KWHrs. sold as secondary power for heating purposes. The total revenue for the current year showed an increase of over 13% compared with the previous year.

Consequent on the continuing increase in consumption of primary power and the demand imposed by Rayrock Mines Ltd., which came into production in 1957, it became apparent that a shortage of power might develop if the 1957-58 winter water supply did not come up to normal expectations. To guard against this possibility, arrangements were made to pur-

chase a block of 500 KW continuous power from the Bluefish Hydro-Electric Plant of the Consolidated Mining & Smelting Co. of Canada Ltd. near Yellowknife. In order to make this power available to the Commission, the Company arranged to substitute oil for electricity in the production of its own steam requirements during the heating season and it was therefore necessary for the Commission to contract to purchase this power whether required or not. As it happened, the water supply was adequate for the first half of the winter season and during this period a portion of the cost of the purchased power was offset by sales of secondary power for heating purposes.

Indications are that the demand for power in the Yellowknife area will continue to grow and towards the close of the current year the Commission decided to seek authority of the Federal Government to proceed with the development of additional hydro power on the Snare River as referred to in last year's report.

The installation of a circuit breaker and associated equipment at the Snare River plant to supply power to Rayrock Mines Ltd. was completed in August.

No operating difficulties were encountered. The annual maintenance shutdown involving a prearranged interruption in delivery of power of 14½ hours duration took place on August 5th. There were 3 minor outages each of a few minutes duration caused by lightning or other abnormal conditions beyond the Commission's control and a prearranged shutdown for 14 hours was required to replace a damaged crossarm on the transmission line.

Staff living quarters and other properties were maintained in first class condition, maintenance work being carried out as necessary.

FORT SMITH DIESEL PLANT

Reflecting the continuing growth of the Fort Smith community, the number of services increased from 287 at the beginning of the year to 335 at year-end, and there was a 49% increase in power production to total 1,902,000 KWHrs. for the year. The increase in gross revenue was influenced by a rate reduction during the year, but was nearly 32% over the previous year, while operating and maintenance expenses increased by 42%.

The increase in power consumption made it possible to introduce a substantial reduction in rates effective January 1st, 1958. Since the rates for domestic consumption had been reduced previously to a reasonable level, the current reduction, approximating 40%, was concentrated on the Commercial and 3 Phase Power classifications of consumption. Minor reductions and adjustments were also made to the rate schedule for domestic, heating and street lighting services.

Installation of a 600 KW diesel generating set comprising an eight cylinder supercharged 720 R.P.M. engine and auxiliary equipment was completed. Concurrent with the commissioning of this new unit, one of the two 100 KW generating sets of the original installation was taken out of service in order to release a switchgear control panel for the new unit, thereby obviating an extension to the switchgear. To accommodate the new generating equipment and to provide additional office space, a 34 foot extension was added at the east end of the powerhouse building. An extension was also added to the west end of the building to provide garage space for a second service vehicle and for additional stores accommodation.

A number of extensions and improvements were made to the distribution system in order to serve new consumers and to accommodate the increased loading on the system. A second service truck equipped with a crane and winch was purchased for use on the distribution system construction and maintenance.

Total cost of capital improvements carried out in the year under review was \$105,742, consisting of \$86,362 for new equipment, structural improvements and additions and \$19,380 for the distribution system. All construction and installation work in connection with this program was carried out by Commission staff, augmented as required by locally hired day labour.

Following a decision to provide a Commission owned residence in Fort Smith for the Regional Superintendent the purchase of an existing house with furnishings was negotiated and arrangements were made for certain improvements and additions to be carried out by the owner before completion of the sale.

Consequent on the increase in power demand there has been a substantial increase in consumption of fuel oil and the fuel require-

ments during the year under review exceeded storage capacity. It was therefore decided to install a 5,000 barrel storage tank during the summer of 1958 which will increase the total storage capacity at this plant to 285,000 gallons and will ensure that a supply of low cost fuel adequate for a full year's operation can be stored during the relatively short shipping season.

MAYO RIVER HYDRO-ELECTRIC PLANT

Power generated increased approximately 13% over the previous year to total 19,030,000 KWHrs. but primary power consumption decreased due to the closing down of Galkeno Mines Ltd. in the fall of 1957. The overall increase was accounted for by increases in consumption on the part of all other consumers of primary power, and the use of power in electric boilers by the United Keno Hill Mines Ltd. following commissioning of the second generating unit. Gross revenue was approximately equal to that for last year but operating and maintenance costs were substantially higher due chiefly to expenditures in connection with repair of the spillway structure.

Installation of the No. 2 generating unit comprising a 3,000 H.P. turbine with associated generator, switchgear and control equipment was completed and was placed in regular operation on December 17, 1957. The power house structure was extended to accommodate the new unit and a duplex residence was constructed to provide additional staff accommodation. Total cost of the capital improvements was approximately \$457,652 comprising \$268,147 for equipment and \$189,505 in respect to structures. This additional investment is to be amortized over a 15 year period commencing April 1st, 1958 and under the terms of a contract with the United Keno Hill Mines Ltd. the Company will be responsible for the annual capital charges and other expense directly attributable to the No. 2 unit.

Repairs in connection with the spillway structure were commenced and were approximately 50% completed when work had to be stopped in November due to the onset of cold weather; it is planned to complete this work during 1958. Improvements to the domestic water supply and sewage disposal systems serving staff dwelling quarters are also to be undertaken during the coming year.

Plans were completed for reconstruction of the distribution system serving the settlement of Mayo Landing. However, because available personnel were fully occupied on more urgent work associated with the installation of the No. 2 generating unit, field work on this distribution system, apart from installation of new street lighting and minor changes that were essential to maintain satisfactory service, was deferred until the summer of 1958.

No operating difficulties were encountered and the additional generating capacity made available by the No. 2 unit eliminated the need for diesel assistance during peak load periods as had been required in the previous year. Planned shutdowns involving a total interruption time of 95 hours were arranged to permit the installation and connecting up of equipment associated with the No. 2 generating unit and 7 minor outages each of a few minutes duration occurred due to unidentified faults on the transmission system and failure of auxiliary equipment within the plant.

Maintenance work was carried out as required on the transmission lines, plant equipment and living quarters to maintain these properties in first class condition.

Consequent on conditions that have not been fully identified but appear to be a combination of atmospheric temperatures and the hydraulic characteristics of the river channel, flooding of the Mayo River a few miles downstream of the plant, occurred in early December 1957, and flood waters inundated the eastern approach to the highway bridge over the Mayo River and threatened a portion of the Mayo townsite. Action taken by the Yukon Territorial Government alleviated the condition but not before some damage had been suffered by residents whose property was in the path of the flood waters. Arrangements were subsequently made with the Commissioner of the Yukon Territory for the appointment of a Board of Investigation, at the joint expense of the Yukon Territorial Government and the Northern Canada Power Commission, to investigate and determine, if possible, the basic cause of the flooding. At year-end, the Commission was awaiting receipt of the Board's report before accepting any responsibility with respect to payment of damages and costs incurred in the action taken to alleviate the situation.

FORT SIMPSON DIESEL PLANT

The year under review marked the first full year of operation for this plant. At year-end, 67 consumers were being supplied and power generated during the year totalled approximately 377,000 KWHrs. Operating costs were somewhat higher than anticipated due to the unsatisfactory performance of the diesel engine equipment.

In the preceding report, reference was made to trouble that was being experienced with the diesel equipment. These difficulties persisted and culminated in complete failure of the equipment which extended over a period of 48 hours. Following this, emergency measures were taken by the equipment supplier which included the airlift of a standby generating unit and the supplier arranged to provide entirely new engines at no cost to the Commission. By year-end, two of the new engines had been installed and were performing satisfactorily.

It is anticipated that the new federal school, hostel and residential buildings to be constructed at Fort Simpson will result in a substantial increase in the demand for power to the extent that additional generating capacity will be required. The Commission accordingly decided to proceed with the construction of an extension to the plant during the 1958 construction season and to transfer to Fort Simpson the 100 KW generating unit that had been decommissioned at the Fort Smith plant. It was also decided to construct a fully modern house to provide suitable living accommodation for the plant superintendent who has been occupying inadequate rented quarters.

WHITEHORSE RAPIDS POWER DEVELOPMENT

Construction of this 15,000 H.P. hydro-electric plant which commenced in November 1956, was carried on throughout the year.

By year-end, all major equipment was either at the site or en route; erection of the turbines was under way and contracts for erection of the sluiceway gates and electrical installations had been awarded.

While no major construction difficulties were encountered, the rock downstream from the spillway structure proved to be inferior in quality to what had been indicated by the original investigations, and it was found neces-

sary to construct an extensive concrete apron which represents a cost addition of approximately \$260,000.

At year-end construction was on schedule and indications were that the schedule for completion of the plant during November 1958 will be met.

NEW AKLAVIK UTILITY PROJECT

Design work was continued on this project and orders for most of the equipment had been placed by the end of the year. Tenders for a general construction contract comprising work for which designs were at that time sufficiently complete, viz. construction of the utilidors, power house and fuel tank foundations and the construction camp, were called early in the year and Poole Construction Co. Ltd., of Edmonton, Alberta, was the successful bidder.

Piling for the utilidors and the power house was placed by the Department of Public Works and a contract was awarded to an independent firm for setting the fuel tank piling and the erection of the electrical distribution system poles. Construction ceased because of cold weather and lack of daylight in early December and recommenced during March 1958.

Experience gained during the 1957 construction season showed that the original target of completion by the fall of 1958 was too optimistic and it was necessary to revise the schedule by extending the completion date to May 1959 although it is anticipated that the plant will be producing electric power by late 1958.

It also became apparent, because of the volume of other work to be carried out at the New Aklavik Townsite on various federally sponsored projects, the limited shipping facilities and the short construction season, that very close co-operation would be necessary on the part of all contractors and government departments and agencies directly concerned if schedules are to be met and chaos avoided. With this in mind, the Commission's consultants strongly recommended that not more than one prime contractor be employed on the utility project. This recommendation was accepted and towards the end of the year a new contract was negotiated with Poole Construction Co. Ltd. to include all phases of work on the project, and the original contract was cancelled, except with respect to such work as had already been com-

pleted under that contract. The Commission is confident that this arrangement will expedite the work and lead to overall savings.

MOOSE FACTORY

Because of other commitments it was found impracticable to undertake operation of the utility plant associated with the Department of National Health & Welfare hospital at Moose Factory, Ontario, as forecast in the preceding annual report. It was therefore necessary to defer further action on the project until the Commission is in a position to ensure that in undertaking this additional responsibility there will be resultant benefits to the Department of National Health & Welfare.

ATLANTIC PROVINCES POWER DEVELOPMENT ACT

An Order of the Governor-in-Council passed in April 1957 appointed the Northern Canada Power Commission the agency of the Federal Government to administer the Government's proposed program for financial assistance in connection with construction of thermal electric power plants and high voltage transmission lines in the Maritime provinces. The Commission's officers participated in negotiations carried on by officials of the federal and provincial governments and later in the year, The Atlantic Provinces Power Development Act was passed by Parliament which formally charged the Northern Canada Power Commission with the responsibility of administering the provisions of that Act that have to do with the provision of financial assistance to the Atlantic Provinces for the construction of thermal electric generating plants and interconnecting transmission lines.

By year-end the major agreements with the provinces of Nova Scotia and New Brunswick had been completed and discussions were continuing in respect to detailed administrative arrangements pertaining to specific individual projects under the program that had been given general approval during the year.

The arrangements for the carrying out of the Commission's functions under the Atlantic Provinces Power Development Act envisage that the administration expense incurred by the Commission in connection with these functions shall be chargeable to the projects concerned; hence this phase of the Commission's activities

will not constitute a charge against any projects undertaken under authority of the Northern Canada Power Commission Act.

FROBISHER BAY

Power requirements at Frobisher Bay were investigated by the Commission and it was decided to proceed with the establishment of a diesel operating station to supply the entire area. Preliminary plans were put in hand and enquiries issued for the supply of major equipment. However, developments in respect to the concept and location of the permanent townsite and the appearance of the possibility that a combined central heating and power plant should be considered led to the decision to defer the project until requirements became more firmly established.

PERSONNEL

Because of the increasing activities of the Commission, it was necessary to make additions to the accounting, engineering and administrative staff at Head Office. While there were a few changes in personnel there was no increase in field staff during the year under review. At the end of the year the Commission's full time staff totalled 41 of which 16 were employed at Head Office in Ottawa.

During the year an upward salary revision was put into effect which was generally similar to that granted to employees in the Public Service that are subject to the regulations of the Civil Service Commission.

FINANCIAL

Funds are advanced by the Minister of Finance for the construction of individual plants, and each plant is operated on a self sustaining separately accountable basis. Funds advanced for capital purposes are repaid by amortization and profits or losses are not regarded as transferable between plants. Power rates are established in accordance with Section 10 of the Act. Charges shown as depreciation for the current year represent repayments of capital principal at the end of the fiscal year.

The financial year has been established as the 12 month period ending 31 March.

Snare River Power Plant, N.W.T.

The capital loan for this plant is repayable over the 20 year period ending March 31, 1969. The interest rate is $3\frac{1}{8}\%$ per annum.

The ninth annual debt retirement instalment amounting to \$325,513.13 was paid to the Minister of Finance as of March 31, 1958. Of this sum \$225,009.57 was principal and \$100,503.56 was interest. Revenue from the sale of power and miscellaneous income was 13.6% over the previous year and exceeded costs by \$147,497.42, of which \$66,000.00 has been assigned to the contingency reserve and the balance of \$81,497.42 has been carried forward as surplus; the contingency fund in respect to this plant stands at \$300,000.00 at year-end.

Fort Smith Power Plant, N.W.T.

The original capital loan of \$138,253.84 for this plant is repayable over the 20 year period ending March 31, 1971 at an interest rate of $3\frac{1}{8}\%$ per annum. The second capital loan of \$3,000.00 is repayable over the 18 year period ending March 31, 1971 with interest at $3\frac{3}{4}\%$ per annum; the 1957-58 expansion program required a third capital loan of \$98,448.33 which is to be repaid over the 13 year period ending March 31, 1971 with interest at $4\frac{1}{8}\%$ per annum.

The sixth annual debt retirement instalment amounting to \$9,867.87 was paid to the Minister of Finance as of March 31, 1958 of which \$6,401.23 was principal and \$3,466.64 was interest. Total revenue was 31.8% higher than for the previous year and exceeded costs by \$28,310.07 of which \$10,000.00 was assigned to the contingency reserve for this plant which increased the reserve to \$40,000.00. Capital assets totalling \$7,329.54 were acquired as part of the 1957-58 expansion program and this cost was charged to the previous year's surplus account; at year-end there was a net surplus of \$39,573.57 carried forward.

Mayo River Power Plant, Y.T.

The original capital loan of \$4,306,217.97 for this plant is repayable over the 20 year period ending March 31, 1973 with interest at the rate of $3\frac{1}{8}\%$ per annum. The addition of the second generating unit and related construction program carried out during 1957-58

required a second capital loan of \$507,582.69 which is to be repaid over the 15 year period ending March 31, 1973 with interest at the rate of $3\frac{3}{4}\%$ per annum.

The fifth annual debt retirement payment of \$292,800.89 on the original loan was made to the Minister of Finance as of March 31, 1958. Of this amount \$178,957.13 was principal and \$113,843.76 was interest.

Total revenue for the year was approximately the same as for the previous year but operating expenses increased 14.2% and transfers of \$36,532.67 were made to the contingency reserve fund for this plant leaving a surplus of \$856.56 for the year, which has increased the total surplus account for this plant to \$15,989.61. At year-end, the contingency reserve stands at \$336,532.67 of which \$25,000 has been provided against flood damage and river control expenses and \$11,532.67 is the equivalent of the charge for repayment of capital advances in respect to the No. 2 unit pro rated to March 31st, 1958. The amount was transferred to the contingency account in accordance with the provisions of the agreement with United Keno Hill Mines Ltd. in respect to the No. 2 generating unit.

Fort Simpson Power Plant, N.W.T.

The original \$110,120.17 capital loan for this plant is repayable over the 20 year period ending March 31, 1977.

The first annual debt retirement instalment of \$7,836.07 was paid to the Minister of Finance as of March 31, 1958 of which \$3,844.21 was principal and \$3,991.86 was interest. Total revenue was \$38,589.70 which exceeded costs by \$657.30 to increase the surplus account to \$4,910.37 at year-end. No contingency reserve fund has yet been established for this plant.

Whitehorse Rapids Power Development, Y.T.

Capital advances for the construction of this plant are to be amortized over a period of 40 years with interest at the rate of 4% per annum. Construction commenced in November 1956 and advances totalling \$5,398,508.94 had been drawn to March 31, 1958. Retirement of the debt will commence following completion of the plant in accordance with the provisions of Section 16 of the Act.

New Aklavik Utility Project

The original estimated cost of this project was \$6,800,000 which included the electric power plant and distribution system, the central heating, water supply and sewage disposal systems, and street lighting and fire alarm systems. Due to construction difficulties and a substantial increase in the loads to be supplied, particularly in connection with the central heating system, the estimated cost has been revised to approximately \$8,000,000.

Because of the special nature of this project the Commission recommended that only the electric power portion of the project be financed on a self supporting basis in accordance with the provisions of the Commission's Act, with the remainder of the total cost to be financed as a direct charge against the development of the townsite and provision of government premises with funds to be provided by direct parliamentary vote. This proposal was approved in July 1957 and an amortization period of thirty years with interest at $4\frac{3}{8}\%$ per annum was estab-

lished in respect to the power portion of the project. Construction commenced during the summer of 1957 and advances totalling \$1,750,000.00 had been drawn to March 31, 1958.

GENERAL

Included in this report is the Consolidated Balance Sheet of the Commission as at March 31, 1958, certified by the Auditor General of Canada, which reflects the financial standing of the Snare River, Fort Smith, Mayo River and Fort Simpson plants and of the Whitehorse and Aklavik Projects.

Also included are the Commission's Supplementary Detail Statements as follows:

- (i) Assets and Liabilities, by plants, as at March 31, 1958.
- (ii) Income and Expenses, by plants, for the year ended March 31, 1958.
- (iii) Surplus, by plants, for the year ended March 31, 1958.

Ottawa, June 26, 1958.

The Honourable Alvin Hamilton,
Minister of Northern Affairs and National Resources,
Ottawa.

Sir,

The accounts and financial statements of Northern Canada Power Commission have been examined for the year ended March 31, 1958. In compliance with the requirements of section 87 of the Financial Administration Act I report that, in my opinion:

- (a) proper books of account have been kept by the Commission;
- (b) the financial statements of the Commission
 - (i) were prepared on a basis consistent with that of the preceding year and are in agreement with the books of account,
 - (ii) in the case of the balance sheet, give a true and fair view of the state of the Commission's affairs as at the end of the financial year, and
 - (iii) in the case of the statement of income and expense, give a true and fair view of the income and expense of the Commission for the financial year; and
- (c) the transactions of the Commission that have come under my notice have been within the powers of the Commission under the Financial Administration Act and any other Act applicable to the Commission.

Yours faithfully,

(Sgd.) Watson Sellar,

Auditor General.

NORTHERN CANADA
(Established by the Northern

BALANCE SHEET AS
(with comparative figure

ASSETS		1958	1957
Cash:			
Capital Account.....	\$ 1,419,802		\$ 152,265
Special Account.....	270,130		247,272
		\$ 1,689,932	399,537
Accounts Receivable.....		324,797	188,924
Advance to the Department of Public Works.....		58,065	—
Prepaid Expenses:			
Inventories of maintenance and operating supplies and spare parts, at cost.....	75,554		70,444
Other prepaid expenses.....	2,827		2,087
		78,381	72,531
Bonds held as Security Deposits (contra).....		225,000	175,000
Investment in Government of Canada Bonds, at cost, including accrued interest (market value, \$500,000).....		500,000	377,561
Capital Assets, at cost:			
Power plants.....	6,528,793		6,099,158
Transmission and distribution facilities.....	2,061,703		2,002,279
Staff dwellings, warehouses and miscellaneous buildings	576,296		503,591
Communication, transportation and other equipment....	437,383		421,398
Projects under construction.....	6,332,261		788,939
Preliminary engineering expenses.....	40,406		38,628
	15,976,842		9,853,993
Less: Accumulated provisions for depreciation (equivalent to cumulative total of annual repayments of principal of advances from the Government of Canada)....	2,510,157		2,095,945
		13,466,685	7,758,048
		16,342,860	8,971,601

Certified correct:

(Sgd.) T. A. Stott,
Secretary-Comptroller

Approved:

(Sgd.) R. G. Robertson,
Chairman

POWER COMMISSION

(Canada Power Commission Act)

AT MARCH 31, 1958

(as at March 31, 1957)

Liabilities		1958	1957
Accounts Payable.....		\$ 338,122	\$ 186,270
Instalment due in Repayment of Advances from the Govern- ment of Canada.....		225,010	218,191
Contractor's Holdback.....		155,271	—
Security Deposits:			
Consumers.....	\$ 77,725		76,600
Construction contractors.....	152,550		100,000
		230,275	176,600
Reserve for Contingencies.....		676,532	564,000
Reserve for Extension, Expansion and Improvements (equivalent to expenditures incurred on acquisition of capital assets, as permitted under section 22 of the Act).		66,929	59,599
Capital:			
Advances from the Government of Canada (less instal- ment due as at March 31, 1958, as above)—			
Under section 14 of the Act.....	50,000		50,000
Under section 15 of the Act.....	14,419,975		7,630,188
	14,469,975		7,680,188
Surplus, per Statement of Surplus.....	180,746		86,753
		14,650,721	7,766,941
		<u>16,342,860</u>	<u>8,971,601</u>

Certified in accordance with my report dated June 26, 1958 to the Minister of Northern Affairs and National Resources, under section 87 of the Financial Administration Act.

(Sgd.) Watson Sellar,
Auditor General of Canada

NORTHERN CANADA POWER COMMISSION

Statement of Income and Expense for the year ended March 31, 1958

(with comparative figures for the year ended March 31, 1957)

	1958	1957
Income		
Sales of Power, less "prompt payment" discounts—		
Mining.....	\$ 944,136	\$ 890,127
Commercial.....	218,107	174,037
Domestic.....	56,964	35,329
	<hr/> 1,219,207	<hr/> 1,099,493
Miscellaneous Income.....	22,550	18,943
	<hr/> \$1,241,757	<hr/> 1,118,436
Expense		
Operating Expenses—		
Salaries and wages.....	146,240	102,317
Diesel oil.....	35,160	22,576
Power purchased for resale.....	38,044	18,311
Charter of aircraft.....	9,897	9,027
Travel and removal expenses.....	6,686	4,190
Staff-house food costs (net).....	4,371	3,848
Miscellaneous.....	17,942	12,837
	<hr/> 258,340	<hr/> 173,106
Maintenance.....	65,570	14,881
Administrative Expenses—		
Salaries.....	47,057	38,461
Miscellaneous.....	20,918	13,805
	<hr/> 67,975	<hr/> 52,266
Interest on advances from the Government of Canada...	221,806	230,250
Provision for depreciation (equivalent to annual repayment of principal of advances from the Government of Canada).....	414,212	397,932
	<hr/> 1,027,903	<hr/> 868,435
Net Income , carried to Surplus Account.....	<hr/> 213,854	<hr/> 250,001

Note: The above administrative expenses do not include charges with respect to head office premises provided by the Department of Public Works.

NORTHERN CANADA POWER COMMISSION

Statement of Surplus for the year ended March 31, 1958

Balance at beginning of year	\$ 86,753	
Add: Net income for the year, per Statement of Income and Expense	213,854	
	<hr/>	\$300,607
Deduct:		
Transfer to Reserve for Extension, Expansion and Improvements of amounts equivalent to expenditures incurred on acquisition of capital assets, as permitted under section 22 of the Act	7,329	
Addition to Reserve for Contingencies	112,532	
	<hr/>	119,861
Balance at end of year.		<hr/> <hr/> 180,746

NORTHERN CANADA POWER COMMISSION

Assets and Liabilities, by Plants and Projects, as at March 31, 1958

Assets

Cash:

Capital Account.....	\$ 71,715	\$ 5,229	\$ 149,955	\$ 14,106	\$ 1,093,383	\$ 77,421	\$ 7,993	\$ 1,419,802
Special Account.....	268,250	23,590	9,915	14,345	2,550	—	—	270,130
Accounts Receivable.....	130,382	19,716	97,427	15,743	—	19,555	41,974	324,797
Advance to the Dept. of Public Works...	—	—	—	—	—	58,065	—	58,065

Prepaid Expenses:

Inventories of maintenance and operating supplies and spare parts, at cost.....	28,884	15,377	24,845	6,448	—	—	—	75,554
Other prepaid expenses.....	1,235	182	1,310	100	—	—	—	2,827
Bonds held as Security Deposits (contra).	50,000	—	25,000	—	100,000	50,000	—	225,000
Investment in Government of Canada Bonds, at cost, including accrued interest (market value \$500,000).....	207,447	26,596	265,957	—	—	—	—	500,000

Capital Assets, at cost:

Power Plants.....	2,478,234	220,750	3,744,917	84,892	—	—	—	6,528,793
Transmission and distribution facilities	1,425,894	70,641	549,667	15,501	—	—	—	2,061,703
Staff dwellings, warehouses and miscellaneous buildings.....	311,280	5,643	259,373	—	—	—	—	576,296
Communication, transportation and other equipment.....	306,476	12,561	110,978	7,368	—	—	—	437,383
Projects under construction.....	—	—	—	—	4,563,531	1,768,730	—	6,332,261
Preliminary engineering expenses.....	40,347	—	—	—	—	—	59	40,406
Less: Accumulated provisions for depreciation (equivalent to cumulative total of annual repayments of principal of advances from the Government of Canada).....	1,623,896	40,242	842,175	3,844	—	—	—	2,510,157

Total Assets.....

	3,696,248	360,043	4,377,339	125,969	5,759,464	1,973,771	50,026	16,342,860
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NORTHERN CANADA POWER COMMISSION

Assets and Liabilities, by Plants and Projects, as at March 31, 1958

Liabilities	SNARE RIVER PLANT	FORT SMITH PLANT	MAYO RIVER PLANT	FORT SIMPSON PLANT	WHITE- HORSE RAPIDS PROJECT	NEW AKLAVIK TOWNSITE PROJECT	PROJECTS UNDER INVESTI- GATION	TOTAL
Accounts Payable.....	\$ 9,862	\$ 9,200	\$ 27,561	\$ 14,568	\$ 103,134	\$ 173,771	\$ 26	\$ 338,122
Instalment due in Repayment of Advances from the Government of Canada.....	225,010	—	—	—	—	—	—	225,010
Contractor's Holdback.....	—	—	—	—	155,271	—	—	155,271
Security Deposits:								
Consumers.....	50,000	1,880	25,630	215	—	—	—	77,725
Construction contractors.....	—	—	—	—	102,550	50,000	—	152,550
Reserve for Contingencies.....	300,000	40,000	336,532	—	—	—	—	676,532
Reserve for Extension, Expansion and Improvements (equivalent to expendi- tures incurred on acquisition of capital assets, as permitted under section 22 of the Act).....	—	66,929	—	—	—	—	—	66,929
Capital:								
Advances from the Government of Canada (less instalment due as at March 31, 1958, as above) Under section 14 of the Act.....	—	—	—	—	—	—	50,000	50,000
Under section 15 of the Act.....	2,991,104	202,460	3,971,626	106,276	5,398,509	1,750,000	—	14,419,975
Surplus, per Statement of Surplus.....	120,272	39,574	15,990	4,910	—	—	—	180,746
Total Liabilities.....	3,696,248	360,043	4,377,339	125,969	5,759,464	1,973,771	50,026	16,342,860

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NORTHERN CANADA POWER COMMISSION

Statement of Income and Expense, by Plants, for the year ended March 31, 1958

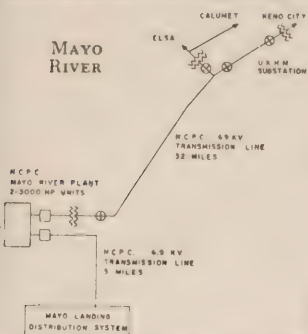
	SNARE RIVER PLANT	FORT SMITH PLANT	MAYO RIVER PLANT	FORT SIMPSON PLANT	TOTAL
Income					
Sales of power, less "prompt payment" discounts—					
Mining.....	\$542,711	\$ —	\$401,425	\$ —	\$ 944,136
Commercial.....	84,983	79,204	24,048	29,872	218,107
Domestic.....	—	42,878	5,762	8,324	56,964
Miscellaneous—					
Rents.....	2,456	—	1,296	—	3,752
Interest.....	5,776	961	8,351	—	15,088
Sundries.....	31	3,036	250	393	3,710
Total Income.....	635,957	126,079	441,132	38,589	1,241,757
Expense					
Operating—					
Salaries and wages.....	55,378	40,772	34,534	15,556	146,240
Diesel oil.....	—	29,521	—	5,639	35,160
Power purchased for resale.....	33,548	—	4,496	—	38,044
Charter of aircraft.....	9,897	—	—	—	9,897
Travel and removal expenses.....	2,439	796	2,071	1,380	6,686
Staff-house food costs (net).....	4,371	—	—	—	4,371
Trucks, tractors, etc.....	985	754	1,317	342	3,398
Power line rentals.....	2,400	—	—	—	2,400
Miscellaneous.....	3,131	3,330	3,149	2,534	12,144
Maintenance—					
Structures and improvements.....	13,059	456	33,320	231	47,066
Equipment.....	3,954	2,980	8,933	1,094	16,961
Miscellaneous.....	321	74	982	166	1,543
Administrative—					
Salaries and wages.....	24,319	4,960	16,286	1,492	47,057
Employer's contributions to em- ployees' welfare schemes.....	6,008	2,461	3,628	828	12,925
Insurance.....	516	828	790	534	2,668
Travel.....	756	424	164	50	1,394
Telephone and telegraph.....	573	269	438	169	1,449
Miscellaneous.....	1,291	276	834	81	2,482
Interest on advances from the Govern- ment of Canada.....	100,503	3,467	113,844	3,992	221,806
Provision for depreciation (equivalent to annual repayment of principal of advances from the Government of Canada).....	225,010	6,401	178,957	3,844	414,212
Total Expense.....	488,459	97,769	403,743	37,932	1,027,903
Net Income , carried to Surplus Account	147,498	28,310	37,389	657	213,854

NORTHERN CANADA POWER COMMISSION
Surplus, by Plants, for the year ended March 31, 1958

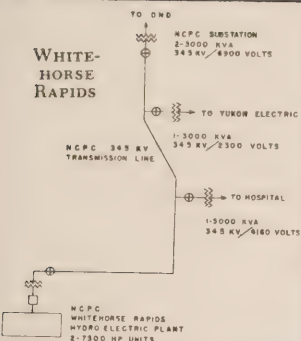
	<u>SNARE RIVER PLANT</u>	<u>FORT SMITH PLANT</u>	<u>MAYO RIVER PLANT</u>	<u>FORT SIMPSON PLANT</u>	<u>TOTAL</u>
Balance at beginning of year.....	\$ 38,774	\$ 28,593	\$ 15,133	\$ 4,253	\$ 86,753
Add: Net income for the year.....	147,498	28,310	37,389	657	213,854
	<u>186,272</u>	<u>56,903</u>	<u>52,522</u>	<u>4,910</u>	<u>300,607</u>
Deduct:					
Transfer to Reserve for Extension, Ex- pansion and Improvements of amounts equivalent to expenditures incurred on acquisition of capital assets, as permitted under section 22 of the Act	—	7,329	—	—	7,329
Addition to Reserve for Contingencies....	66,000	10,000	36,532	—	112,532
	<u>66,000</u>	<u>17,329</u>	<u>36,532</u>	<u>—</u>	<u>119,861</u>
Balance at end of year.....	<u>120,272</u>	<u>39,574</u>	<u>15,990</u>	<u>4,910</u>	<u>180,746</u>

INUVIK UTILITY PLANT
 1 STEAM TURBINE - 600 KW
 3 DIESEL UNITS - 900 KW
 TOTAL CAPACITY - 1500 KW
 3-30,000 LB. PER HR. BOILERS

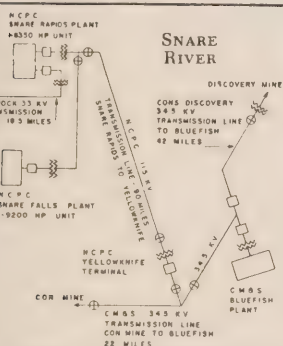
MAYO RIVER



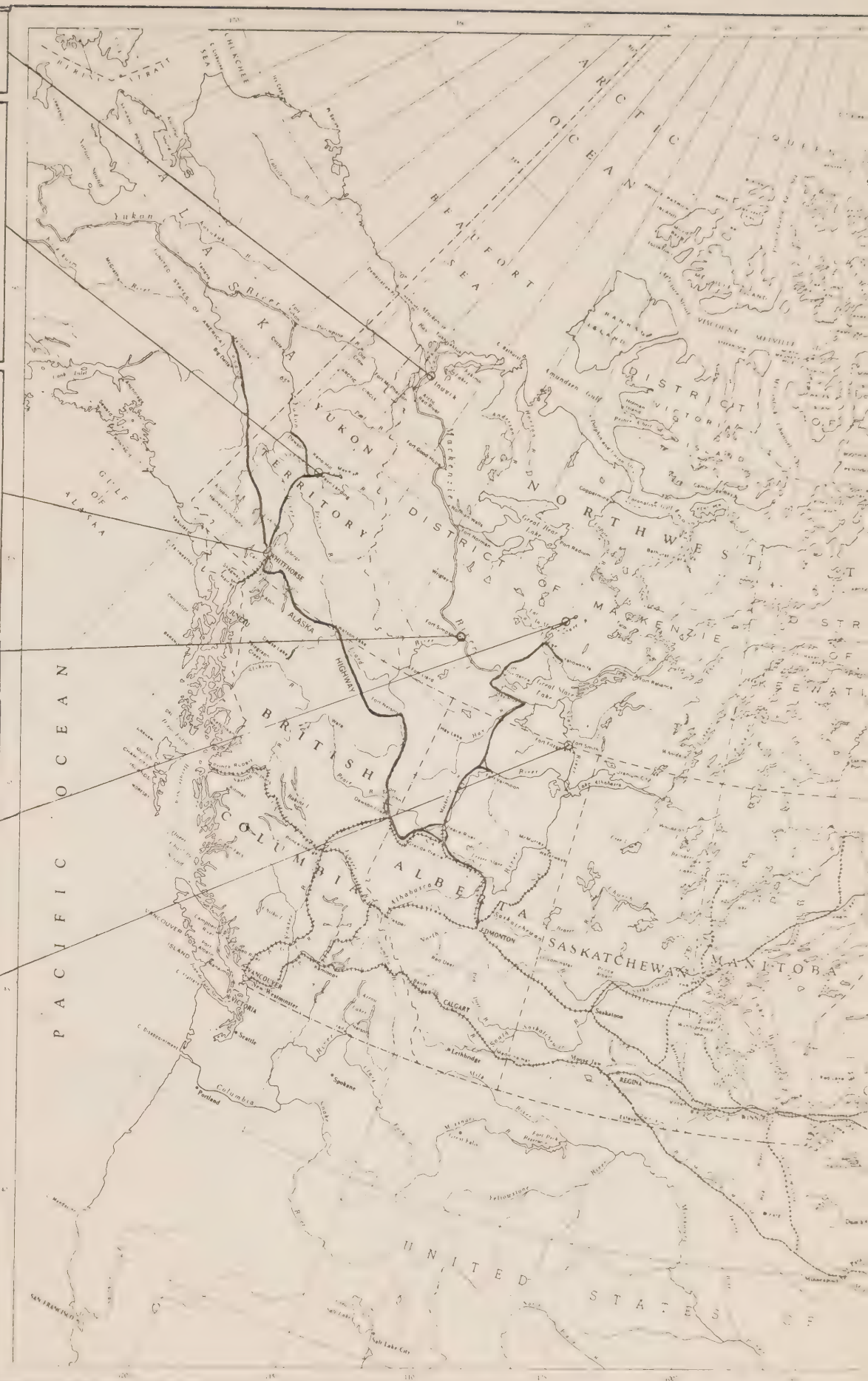
WHITEHORSE RAPIDS



FORT SIMPSON DIESEL ELECTRIC PLANT
 4 UNITS - 425 KW. TOTAL



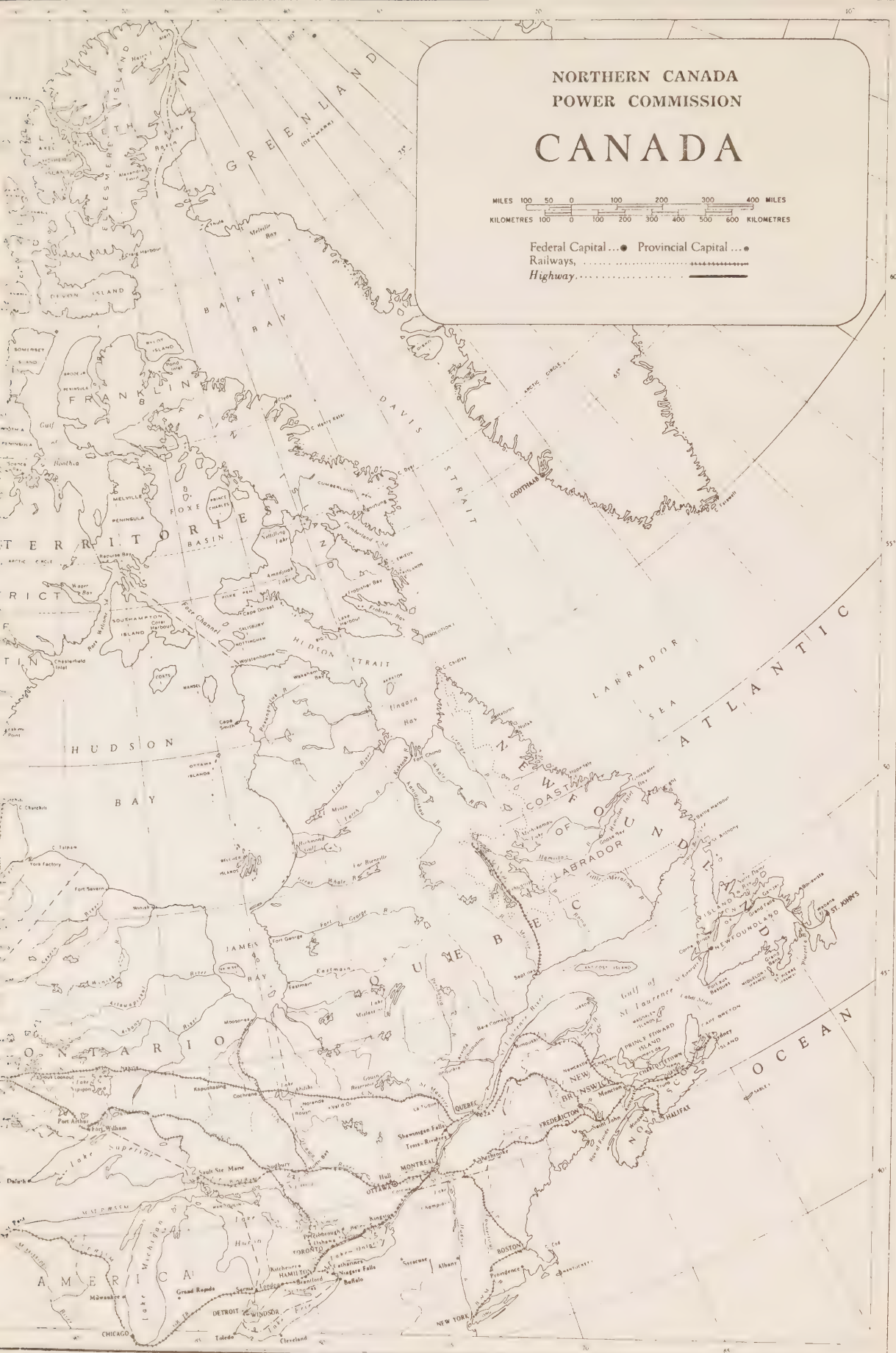
FORT SMITH DIESEL ELECTRIC PLANT
 4 UNITS - 1150 KW. TOTAL



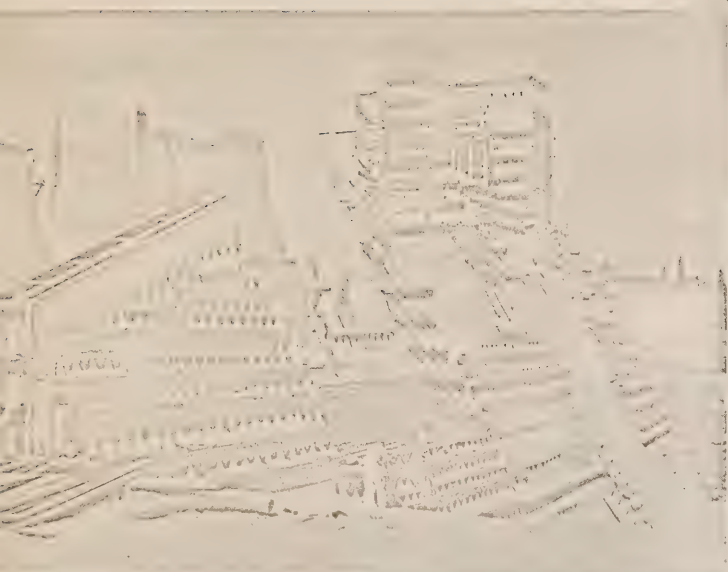
NORTHERN CANADA
POWER COMMISSION
CANADA

MILES 100 50 0 100 200 300 400 MILES
KILOMETRES 100 0 100 200 300 400 500 600 KILOMETRES

Federal Capital...● Provincial Capital...●
Railways.....
Highway.....



Whitehorse Rapids Hydro Development — Sluiceway Cofferdam — May 1957.



Whitehorse Rapids Hydro Development — Sluiceway Piers — July 1957.



Whitehorse Rapids Hydro Development — Powerhouse Framework and Penstocks — Nov. 1957.

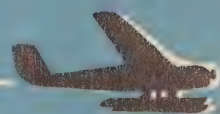


Whitehorse Rapids Hydro Development — Sluiceway Piers and Cofferdam for Main Dam Construction — March 1958.

Lacking 1958/59

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NORTHERN CANADA POWER COMMISSION



TWELFTH
**ANNUAL
REPORT**
1959-1960





Whitehorse Rapids Hydro Plant —
Powerhouse and substation.



Field, B.C. Diesel Plant — Powerhouse.



Inuvik Utilities Plant — General view of Inuvik during construction showing a utilidor line on the right.

GOVERNMENT OF CANADA

Northern Canada Power Commission

ANNUAL REPORT

of the

NORTHERN CANADA POWER COMMISSION

for the Fiscal Year ended March 31, 1960

OTTAWA, CANADA



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Northern Canada Power Commission

July 8, 1960.

The Honourable Alvin Hamilton, M.P.,
Minister of Northern Affairs and National Resources,
Ottawa, Ontario.

Dear Sir,

I beg to submit herewith the report of the Northern Canada Power Commission for the fiscal year ending March 31, 1960, as required under Section 24 of the Northern Canada Power Commission Act, Chapter 42, 4-5, Eliz. II.

Respectfully submitted,

(Sgd.) R. G. ROBERTSON

R. G. ROBERTSON,
Chairman.

Northern Canada Power Commission

1959 - 1960

R. G. Robertson Chairman

G. E. Lowe * Member

T. M. Patterson Member

J. F. Parkinson + Member

E. W. Humphrys General Manager - Chief Engineer

T. A. Stott Secretary-Comptroller

* Deceased December 10, 1959

+ Appointed February 11, 1960

ANNUAL REPORT

of the

NORTHERN CANADA POWER COMMISSION

for the Fiscal Year ended

March 31, 1960

OTTAWA, CANADA

The Northern Canada Power Commission operates under authority of Act of Parliament (4-5 Eliz. II, Chapter 42). The Commission is empowered to construct and operate public utility plants in the Northwest Territories and Yukon Territory and, subject to approval of the Governor General-in-Council, in any other part of Canada. The Act requires that projects undertaken by the Commission shall be self-sustaining, and consequently the rates charged for utilities supplied must provide sufficient revenue to cover interest on investment, repayment of principal over a period of years, operating and maintenance expenses and contingency reserve. The Commission is thus a Federal Government Agency concerned with the construction and management of public utilities on a commercial basis.

During the year under review there was a general upward trend in the output of power by Commission plants varying with the extent of commercial and domestic growth of the areas served. Construction of new facilities continued to be a significant feature of the Commission's activities; a major element of one project and two new diesel generating plants were placed in service, one hydro development was completed and engineering was commenced in regard to the expansion of five diesel plants and construction of one new diesel station.

The Commission's operations currently embrace three hydro stations and six thermal plants as follows:

- (i) Snare River Hydro-Electric Development, N.W.T. — the 8,350 H.P. Snare Rapids Hydro-Electric Plant situated on the Snare River some ninety miles north-west of Yellowknife, N.W.T., connected to a terminal station located near Yellowknife by a 115,000 volt transmission line, placed in operation in September 1948; this plant supplies directly the mines in the Yellowknife area and through a privately owned distributing company all consumers in the Municipality of Yellowknife, and is interconnected with the Consolidated Mining & Smelting Company Limited's Bluefish Hydro Plant.
- (ii) Mayo River Hydro-Electric Development, Y.T. — a 6,000 H.P. hydro-electric plant with a 69,000 volt transmission line approximately 32 miles in length and some 5 miles of 6,900 volt line. The generating station is situated on the Mayo River approximately five miles north of the settlement of Mayo Landing, Y.T. and some 265 miles north of the City of Whitehorse. This plant was placed in operation in November 1952 and was enlarged in 1957. Power is supplied to mining properties in the Elsa and Keno areas, the community of Mayo Landing, and to a privately owned distribution system serving the community of Keno City.
- (iii) Whitehorse Rapids Hydro-Electric Development — a 15,000 H.P. hydro-electric development on the Yukon River about two miles upstream from the City of Whitehorse, Y.T. which was placed in service in November 1958. This plant supplies the Department of National Defence installations, and by supplementing the Yukon Electrical Company's own hydro sources, a substantial portion of the requirements of the City of Whitehorse. In addition, surplus power is supplied to the Department of National Health and Welfare Hospital for use in electric boilers for heating purposes.
- (iv) Fort Smith, N.W.T. — a 1,640 H.P. diesel plant and distribution system placed in service in October 1950, supplying the Fort Smith, N.W.T. settlement on a retail basis. The original 520 H.P. plant was enlarged to 925 H.P. in 1955 and to its present capacity in 1957.
- (v) Fort Simpson, N.W.T. — a 510 H.P. diesel plant and distribution system supplying the settlement of Fort Simpson, N.W.T. on a retail basis. The original plant was erected in 1956 and a 100 KW unit, transferred from Fort Smith, was installed in 1959.

- (vi) Inuvik, N.W.T. — a thermal power plant employing diesel and steam generation, with associated overhead electrical distribution supplying power to the entire area, and an above ground system of utilidors distributing central heat and water and sewerage services to the central portion of the townsite; this plant began supplying power in October 1958, the central heating system was commissioned in the spring of 1959 and the water and sewerage systems in August of the same year.
- (vii) Fort McPherson, N.W.T. — a 125 KW diesel plant supplying the school and hostel and other government and private premises in the settlement, together with the heating plant, water supply and sewage disposal facilities for the hostel, all of which are operated by the Commission on behalf of the Department of Northern Affairs and National Resources.
- (viii) Frobisher Bay, N.W.T. — a 1,000 KW diesel plant with associated distribution system supplying the Frobisher Bay Airport and adjacent area, and the nearby Apex Hill settlement.
- (ix) Field, B.C. — a 300 KW diesel plant with associated distribution system commissioned in 1959, which supplies the general area of Field, B.C., the administrative centre for the Yoho National Park.

A tabulation of statistical data and a map showing the location of each operation appear elsewhere in this report.

ORGANIZATION

It is with a deep sense of loss that the Commission records the death on December 10, 1959 of Mr. G. E. Lowe. Mr. Lowe had been a Member of the Commission since October 1952 and as a Senior Officer of the Department of Finance he was closely associated with the affairs of the Commission during its formative years, prior to his appointment to the Commission. Through his conscientious and sound counsel concerning financial and administrative matters he contributed greatly to the development of the Commission. Mr. Lowe will be sorely missed by the Commission both as an advisor and an associate.

Mr. J. F. Parkinson, Economic Advisor, Department of Finance, was appointed Member of the Commission effective February 11, 1960 to fill the vacancy created by the death of Mr. Lowe.

As the year progressed it became increasingly evident that because of the variety of

activities that are being administered through the Regional Superintendent's office at Fort Smith there is need for a Commission representative in Edmonton to expedite procurement and shipment of supplies and materials, and recruitment and despatch of specialized staff that cannot be recruited locally. It was accordingly decided to transfer the headquarters of the Regional Superintendent from Fort Smith to Edmonton. Suitable office space has been rented from the Department of Public Works and the relocation of the Regional Office functions was effected at the close of the year. This arrangement has made it practical to place the Field, B.C. operation under the jurisdiction of the Regional Superintendent thereby facilitating the staffing and management of this plant.

Reflecting the expansion of activities that occurred during the year the number of full time employees increased from 96 to 128 of which 29 are Head Office staff, 6 are attached to the Regional Office and 93 located at the various plants. Wages and salaries paid totalled \$677,565 as compared with \$433,446 for the previous year.

SNARE RIVER HYDRO POWER PLANT

The Snare Rapids Hydro plant operated at virtually full capacity.

Due to the closing down of mining and milling operations at the Rayrock uranium mine, there was a slight reduction in total output of power, but sale of primary power to other consumers increased by nearly 10%; there was a slight decrease in secondary power sales. Water supply during the year was exceptionally good and this, with the amount of power released by Rayrock and the continued purchase of 500 KW of firm power from the Consolidated Mining and Smelting Company's Bluefish Hydro plant, made it possible to meet the demand over the winter months without resorting to diesel assistance.

The diesel standby plant intended primarily to protect the supply of power to the town of Yellowknife referred to in last year's report, was constructed during the year. This plant has been erected adjacent to the Plains Western Gas and Electric Company's main substation, through which the town of Yellowknife is supplied. It comprises a small frame structure housing a 1,440 H.P. 12 cylinder "V" type diesel unit and auxiliary equipment. This plant was erected by Commission's own staff augmented as necessary by local labour, with the exception of excavation and concrete work which was contracted locally. By co-operation with the Educational Division of the Department of Northern Affairs and National Resources the construction of this plant was treated as a training project for vocational

students attending the Sir John Franklin school in Yellowknife. By virtue of this arrangement 8 students gained practical experience in carpentry, pipe fitting, electrical wiring and the installation of heavy equipment under supervision of the skilled tradesmen employed directly by the Commission. The electrical switchgear control panel was entirely fabricated and assembled in the vocational school shop by a member of the Commission's staff who had received his initial training in the Fort Smith plant.

Construction of the 9,000 H.P. Snare Falls Hydro-Electric plant on the Snare River, some 10 miles downstream from the existing Snare Rapids plant proceeded satisfactorily. Work was carried on throughout the winter months and concrete pouring continued despite temperatures as low as -58° F. At the close of the year the work involving enlarging and improving the main spillway was well in hand, the Snare River had been diverted at the new powerhouse and dam site through a diversion tunnel, and erection of the powerhouse was well advanced; completion is scheduled for the late fall of 1960.

No operating difficulties were encountered in the operation of the existing Snare Rapids plant and transmission line. A program of stubbing poles on the transmission line showing evidence of rot was initiated. The annual maintenance shutdown required an interruption of ten hours in power supply, and an additional interruption of six hours was necessary for essential maintenance work on the transmission line. Atmospheric and miscellaneous system disturbances caused twelve minor interruptions.

MAYO RIVER HYDRO-ELECTRIC PLANT

This plant continued to operate at full capacity since the electric heating boilers installed at the United Keno Hill Mine can absorb all output that is available after the demand for primary power has been satisfied. Consequently the total output was substantially unchanged from the previous year, but there was a 7% increase in primary demand with a corresponding reduction in secondary (electric boiler) consumption; gross revenue increased by 4% and production costs were down 3%.

Power consumption in the community of Mayo where power is distributed by the Commission increased by 11% and the number of services increased from 133 to 138.

A failure of three poles in the main transmission line occurred during a period of high winds. Subsequent inspection of all structures revealed that a large number of the poles have been seriously damaged by insect action. All poles that were found to be seriously impaired

were reinforced by stubbing and further maintenance work of this nature is planned for 1960. The initial failure and subsequent repair work resulted in three interruptions in service totalling approximately twenty hours and lightning caused one additional interruption of a few minutes duration. No operating difficulties were experienced in connection with the generating plant and water control structures.

WHITEHORSE RAPIDS HYDRO-ELECTRIC DEVELOPMENT

The year under review marked the first full year of operation of this plant. Because of water treatment difficulties the electric heating boilers in the Department of National Health and Welfare hospital were not in full operation, consequently the plant load was below the anticipated level. However, sales of primary power were somewhat in excess of estimates and consequently revenue was sufficient to produce a small surplus for the year.

Construction of the permanent fishway facilities was substantially completed by mid summer and was observed to function satisfactorily in the transport of upstream migrant salmon during the month of August.

No serious operating difficulties were encountered during the year apart from one outage of approximately three hours duration caused by a flashover during a switching operation.

Designs were prepared and equipment procured for two substations to be constructed in 1960 to supply the two new Department of Indian Affairs' Hostels which will be heated by electric boilers; primary power (for the account of the Yukon Electrical Company) will also be supplied through these substations.

FORT SMITH DIESEL PLANT

Reflecting the continued growth of this community, the number of services increased from 391 to 442 by the end of the year, and there was a 19% increase in power output; due to increased maintenance costs and somewhat higher salary expense, operating costs increased by 22%.

A number of extensions were made to the distribution system to serve new consumers, and work commenced on a new feeder circuit.

In order to meet the increasing power demand authority was obtained for construction in 1959 of a transmission line required in connection with the anticipated purchase of power, at a price well below the cost of diesel generation, from a privately owned industrial plant in the Fort Smith area; however, this

project had to be abandoned when it developed that despite a firm undertaking to the contrary a continuous supply of power from this source would not be assured.

By the time the above noted circumstances developed the season was too far advanced to obtain additional diesel equipment. Consequently, the existing plant was taxed to the limit to meet the demand over the winter months; much credit is due the operating staff for the efforts put forth to maintain the supply of power without serious restrictions except during a short period when the largest generating unit had to undergo major maintenance.

Plans have been put in hand for the installation in 1960 of a heavy duty 1,000 KW diesel unit. With the installation of this unit the plant will have sufficient firm capacity to meet a modest increase in demand, but it is foreseeable that a second similar unit will be required eventually; hence the powerhouse modifications required to accommodate the current installation are being arranged to provide for the future addition of a duplicate unit. Concurrent with the 1960 addition the two remaining original (1950) units, rated at 100 KW and 150 KW, will be removed and transferred to the new Fort Resolution development.

FORT SIMPSON DIESEL PLANT

The number of service connections increased from 85 to 112 and power output increased by 11% over the previous year. This increase was largely due to construction activities in connection with the water and sewerage system and school and hostel buildings in the settlement. In order to supply the increased demand that will appear when these projects become operational plans were put in hand for installation in 1960 of a 300 KW diesel unit and the concurrent removal and transfer to the new Fort Resolution project of one of the original 75 KW units.

A portion of the distribution system was renovated and a number of extensions constructed in order to supply new premises.

INUUVIK UTILITY PROJECT

As noted in the preceding Annual Report the central heating phase and a portion of the utilidor system were placed in service early in the year, when heat was supplied to the permanent hostel and school buildings. The domestic and fire fighting water supply and sewerage systems were placed in service in August. Construction activities were closed down in early December by which time central heat and water and sewerage service were being supplied to all premises in the serviced area of the townsite that were ready for these services, (this constituted service to 62 govern-

ment residential units, 7 government owned commercial buildings and 5 privately owned premises), and the transmission line to the airport and the fire alarm system within the townsite had been completed.

Plans for 1960 include completion of the utilidor system to supply all premises that were included in the original scheme plus extensions to serve some twenty additional residential and commercial structures that have been added to the original program.

The first year of operation revealed that the total load on the central heating system will be somewhat less than indicated by estimates based on the architectural plans of the various buildings to be served, consequently the amount of power than can be produced by the back pressure turbine will be significantly less than originally contemplated. This, together with the electrical power load having developed more rapidly than was anticipated, has necessitated increasing the generating capacity by the addition of a 1,000 KW diesel unit in 1960.

At year end there were 212 electrical power connections and 74 connections to the central heating, water and sewerage systems.

In addition to operation of the utility project the Commission undertook the maintenance of the mechanical and electrical installations in the various government buildings; the cost of providing this service has been charged to the government departments concerned independently of the charge for utilities supplied.

FORT McPHERSON

Operation of the power plant supplying all government premises and a small number of private consumers in the settlement, and the heating plant and water and sewage disposal services for the hostel, on behalf of the Department of Northern Affairs and National Resources was continued. In addition, maintenance services were provided in respect to the electrical and mechanical installations associated with the school and hostel.

Plans were put in hand for the installation of a 150 KW generating unit in order to meet the increased demand resulting from the conversion of the hostel cooking facilities to electric ranges, and the construction of a water supply system; funds for this expansion will be provided by the Department of Northern Affairs and National Resources, but the work will be carried out by Commission forces.

FROBISHER BAY

This plant was initially operated by the Commission on an agency basis on behalf of the Department of Transport. During the year

an agreement was negotiated with the Department whereby the generating plant and distribution system in the Airport area has been leased to the Commission at a rental based on the installed cost of the four existing 250 KW diesel generating units and associated equipment. Upon completion of this agreement the operation was changed to treat it as a normal Commission project, with the Commission assuming full responsibility for generation and distribution of power in the Airport area with the exception that major maintenance and extensions of the distribution system associated with the Airport proper will be directly chargeable to the Department of Transport.

During the year it became evident that additional generating capacity would be required to supply the anticipated increase in demand by the Departments of Transport and Northern Affairs and the general public; also, the Commission was asked to supply power on a commercial basis to military installations that are about to become operational. Consequently, authority was obtained for a capital program of \$600,000 to cover the installation of two additional diesel units having a total capacity of approximately 2,000 KW, and the acquisition of eight temporary dwelling units that had been constructed under a Department of Transport contract for staff accommodation. By the close of the year the new diesel equipment had been placed on order for delivery in 1960 and necessary design work for the plant expansion was in progress.

On behalf of the Department of Northern Affairs and National Resources the Commission arranged the construction of a transmission line some three miles in length from the airport area to the Apex Hill townsite. By arrangement with the Bell Telephone Company Limited this line was constructed for joint use by the telephone company so that commercial telephone service could be provided to Apex Hill townsite.

FIELD, B.C.

This diesel generating plant and distribution system was constructed during the year, and commissioned in December.

The project comprises a frame powerhouse structure to house three diesel units, a duplex residence for operating staff and a distribution system covering the townsite area and

extending to the National Parks' maintenance shops and offices. The powerhouse building and residence were constructed by contract. Distribution system construction and equipment installation was carried out by Commission forces.

The initial equipment installation consists of two 150 KW generating units with provision for a third unit of 100 KW capacity; the latter to be installed in 1960.

At year-end the plant was supplying 118 consumers, but one of the major loads, the National Parks' maintenance establishment, will not be taking power until it becomes operational in 1960.

FORT RESOLUTION, N.W.T.

At the request of the Departments of Transport, and Northern Affairs and National Resources, the power requirements in the settlement of Fort Resolution were investigated, with the conclusion that the establishment of a central power plant by the Commission to supply this would be a feasible project. Towards the close of the year authority to construct a diesel generating station and associated distribution system at an estimated cost of \$125,000 was obtained, and construction is planned for 1960. The proposed plant will have an installed capacity of 325 kilowatts and will utilize generating equipment that is becoming surplus at Fort Smith and Fort Simpson.

THE ATLANTIC PROVINCES POWER DEVELOPMENT ACT

An agreement providing for the financing of several transmission line and terminal station projects and one thermal plant in Nova Scotia, under the provisions of the Atlantic Provinces Power Development Act, was completed with the Nova Scotia Power Commission. Advances during the year in respect to construction within the terms of that agreement totalled \$5,452,616.79.

Payments to the New Brunswick Electric Power Commission in respect to construction claims submitted during the year amounted to \$2,465,784.39 which increased the total of advances to New Brunswick to \$3,545,966.58 to March 31, 1960.

STATISTICAL DATA - 1959-1960

	PEAK LOAD KW	GENERATED	PURCHASED THOUSANDS OF KWHRS	SALES
SNARE HYDRO	7800(7800)	46034(46369)	2856(3675)	
Industrial - primary	—	—	—	35782(36451)
" - secondary	—	—	—	2856(3675)
Wholesale	—	—	—	6576(5637)
Retail	—	—	—	4(43)
MAYO HYDRO	4800(4800)	34461(34076)	—	
Industrial - primary	—	—	—	15720(15405)
" - secondary	—	—	—	15387(15925)
Wholesale	—	—	—	58(53)
Retail	—	—	—	436(309)
WHITEHORSE HYDRO	6500(6000)	20353(7193*)	—	
Wholesale	—	—	—	18052(5230*)
Secondary	—	—	—	469(660)
FORT SMITH	905(720)	3136(2543)	—	2825(2293)
FORT SIMPSON	115(100)	475(431)	—	440(373)
INUVIK - Power	780(300)	2945(395*)	1040+(—)	1533(323*)
- Heat	24000 lbs. stm. per hr.	—	—	28.2 x 10 ⁹ btu
FROBISHER BAY	720(460)	3723(435*)	—	3599(353*)
FIELD, B.C.	110	189*	—	152*

() - 1958-1959 figures

* - Part Year

† - Utility consumption

FINANCIAL

Funds are advanced by the Minister of Finance for the construction of individual plants and each plant is operated on a self-sustaining separately accountable basis. Funds advanced for capital purposes are repaid by amortization and profits or losses are not regarded as transferrable between plants. Power rates are established in accordance with Section 10 of the Act. Charges shown as depreciation for the current year represent repayments of principal at the end of the fiscal year. The financial year has been established as the twelve month period ending March 31.

Snare River Hydro-Electric Development :

The original capital loan for this plant is payable over the twenty year period ending March 31, 1969 with an interest rate of 3-1/8% per annum.

The eleventh annual amortization payment totalling \$325,513.13 was made to the Minister of Finance as of March 31, 1960, of which \$239,292.40 was principal and \$86,220.73 was interest.

Capital advances for construction of the Snare Falls plant which totalled \$5,000,000 as at March 31, 1960, are to be amortized over a period of thirty years with interest at 4-1/2% per annum.

Revenue from sale of power and miscellaneous income was slightly higher than for the previous year and exceeded operating and maintenance costs by \$151,107.86. Capital expenditures totalling \$99,956.42 in respect to the Yellowknife Diesel Plant were charged to surplus to leave a balance in accumulated surplus account of \$269,441.68 at year-end and the contingency reserve fund remained at \$300,000.00.

Mayo River Hydro-Electric Development :

The original capital loan of \$4,306,217.97 for this plant is repayable over the twenty year period ending March 31, 1973 with interest at the rate of 3-1/8% per annum, and the second capital loan in respect to No. 2 Generating Unit of \$457,652.22 is to be repaid over the fifteen year period ending March 31, 1973 with interest at the rate of 3-5/8% per annum. Amortization payments totalling \$332,890.64 were made to the Minister of Finance as of March 31, 1960 of which \$214,668.43 was principal and \$118,222.21 was interest.

Total revenue for the year was approximately 4% over the previous year and exceeded operating costs by \$89,230.22 of which \$63,447.83 was transferred to the Contingency Reserve thereby increasing that fund to \$400,000.00. The surplus carried forward at year-end totalled \$74,675.90.

Whitehorse Rapids Hydro-Electric Development :

Since construction of this plant had been substantially completed during the previous fiscal year it was decided to declare the project completed as of March 31, 1959. At year-end construction costs including interest on capital advances to March 31, 1959 totalled \$7,088,052.54. It was decided to refund to the Minister of Finance capital funds on hand in the amount of \$51,487.57 thereby reducing the capital loan including accrued interest to March 31, 1959, to \$7,200,000. This loan is repayable with interest at 4% per annum in forty equal annual instalments of \$363,769.13 the first of which was payable March 31, 1960. Revenue of \$449,868.53 exceeded operating costs and capital charges by \$3,283.00. An assignment of \$75,000 was made to the contingency reserve fund for this plant leaving a surplus of \$16,466.92 at year-end.

Fort Smith Power Plant :

The original capital loan of \$138,253.84 for this plant is repayable over the twenty year period ending March 31, 1971 with an interest rate of 3-1/8% per annum. A second capital loan of \$3,000.00 is repayable over the eighteen year period ending March 31, 1971 with an interest rate of 3-3/4% per annum. The third capital loan of \$98,448.33 is repayable over the thirteen year period ending March 31, 1971 with an interest rate of 4-1/8% per annum. Amortization payments totalling \$19,803.48 were made to the Minister of Finance as of March 31, 1960 of which \$12,926.37 was principal and \$6,877.11 was interest.

Total revenue was approximately 22% higher than for the previous year. At year-end, the Contingency Reserve Fund for this plant was \$40,000.00 and the accumulated surplus stood at \$10,017.66.

Fort Simpson Power Plant :

The original capital loan of \$110,120.17 is repayable over the twenty year period ending March 31, 1977 and a second loan of \$40,000.00 is to be repaid over the eighteen year period terminating on the same date; the interest rate in respect to both loans is 3-5/8% per annum.

Amortization payments totalling \$10,900.25 were made to the Minister of Finance as of March 31, 1960, of which \$5,742.15 was principal and \$5,158.10 was interest.

Total income was 22% over the previous year but because of increased operating and maintenance costs there was a deficit on the year's operations of \$928.65. This, together with capital expenditures of \$5,414.24 in respect to the acquisition of fixed assets which were charged to accumulated surplus, resulted in a

deficit of \$134.95 at year-end which is being carried forward; it is anticipated that the increasing demand for power in this community will bring about an improvement in the ratio of revenue to operating expense in future years.

Inuvik Utilities Project :

Capital advances for construction purposes to March 31, 1960 totalled \$6,800,000.00. Under the provisions of P.C. 1957-1020 dated July 31, 1957 the cost of the electric power generating plant and distribution system elements of the project is to be amortized over a period of thirty years with interest at 4-3/8% per annum. The balance of the cost of the project is to be reimbursed to the Department of Finance from funds to be appropriated by Parliament for that purpose as an expense associated with the development of the new town of Inuvik. Operating revenue for the year exceeded production costs by \$34,210.87 which has been carried forward as surplus.

Fort McPherson :

Operations in this settlement, on behalf of the Department of Northern Affairs and National Resources resulted in an income of \$5,843.29 in respect to administrative expense which was credited to Head Office overhead. The total expense incurred in connection with this operation was billed to the Department of Northern Affairs and National Resources at year-end.

Frobisher Bay Power Plant :

Upon execution of a rental agreement with the Department of Transport in connection with this plant, its operation was treated as a Com-

mission-owned project, retroactive to February 1, 1959. Accordingly, the outstanding billing to the Department of Transport in regard to operating costs for the period that ended March 31, 1959 was cancelled and replaced with a billing based on the amount of power supplied; this resulted in a deficit of \$248.67 for that period which has been recorded as surplus account adjustment. Revenue for the period April 1, 1959 to March 31, 1960 totalled \$312,132.50 and exceeded operating costs by \$103,167.33; after taking into account the \$248.67 deficit from the previous year a year-end surplus of \$102,918.66 resulted.

Field, B.C. :

This plant was completed late in November of 1959 at a total cost of \$199,999.39 and \$5,561.64 of capital funds has been repaid to the Minister of Finance so that the capital loan balance in connection with construction stood at \$200,000.00 as of March 31, 1960. This loan is repayable with interest at 5% per annum in equal annual instalments of \$13,010.29 during the thirty year period which ends March 31, 1990. The completed plant operated for approximately four months and revenue totalled \$13,599.33 with operating expenses of \$11,101.99 to provide a surplus of \$2,497.34 at year-end.

Atlantic Provinces Power Development Act :

Payments totalling \$2,465,784.39 were made to the New Brunswick Electric Power Commission during the year under the provisions of the Atlantic Provinces Power Development Act and interest accruals to March 31, 1960 were charged to the projects involved as follows :

PROJECT	PAYMENTS TO MARCH 31, 1959	PAYMENTS APRIL 1, 1959 MARCH 31, 1960	INTEREST ACCRUED	TOTAL MARCH 31, 1960
Saint John-Fredericton Transmission Line	\$ 417,280.99	\$ 671,719.01	\$ 40,774.58	\$1,129,774.58
Grand Lake-Newcastle Transmission Line	171,595.98	48,272.80	10,121.71	229,990.49
Newcastle-Bathurst Transmission Line	366,198.71	9,944.82	19,187.05	395,330.58
Moncton-Nova Scotia Border Transmission Line	55,635.58	826,608.16	16,571.81	898,815.55
Saint John Terminal Station	17,593.08	334,742.85	5,189.60	357,525.53
Fredericton Terminal Station	51,877.85	574,496.75	8,293.41	634,668.01
	\$1,080,182.19	\$2,465,784.39	\$100,138.16	\$3,646,104.74

Payments totalling \$5,452,616.79 were made to the Nova Scotia Power Commission during the year under the provisions of the Atlantic

Provinces Power Development Act and interest accruals to March 31, 1960 were charged to the projects involved as follows :

PROJECT	PAYMENTS TO MARCH 31, 1959	PAYMENTS APRIL 1, 1959 MARCH 31, 1960	INTEREST ACCRUED	TOTAL MARCH 31, 1960
Antigonish-West Bay Transmission Line	\$ —	\$ 450,076.58	\$ 6,221.57	\$ 456,298.15
Hunter's Mountain-Tarbot Transmission Line	—	252,009.42	1,341.60	253,351.02
Maccan-N.B. Border Transmission Line	—	41,082.79	781.91	41,801.70
Sissiboo Hydro-Weymouth Falls Transmission Line ..	—	22,138.92	510.95	22,649.87
Trenton-Antigonish Transmission Line	—	652,000.00	17,636.07	669,636.07
Trenton-Truro Transmission Line	—	127,679.93	3,035.01	130,714.94
Truro-Maccan Transmission Line	—	616,444.49	14,647.53	631,092.02
West Bay-Hunter's Mountain Transmission Line	—	13,704.60	2.61	13,707.21
Interconnection with Nova Scotia Light and Power Company Limited Sys- tem	—	82,768.90	2,238.83	85,007.73
Maccan Terminal Station ..	—	137,527.83	1,365.87	138,893.70
Sissiboo Terminal Station	—	108,536.22	—	108,536.22
Trenton Terminal Station ..	—	272,795.60	4,990.45	227,786.05
Truro (Onslow) Terminal Station	—	185,878.64	1,473.78	187,352.42
Trenton Thermal Electric Generating Plant	—	2,489,972.87	47,963.78	2,537,936.65
	\$ —	\$5,452,616.79	\$102,146.96	\$5,554,763.75

In addition charges were made to the New Brunswick Electric Power Commission and the Nova Scotia Power Commission for \$1,068.85

and \$2,363.56 respectively with respect to engineering and administration costs, both of which were credited to head office overhead.

FINANCIAL STATEMENTS

Included in this report is the Consolidated Balance Sheet of the Commission as at March 31, 1960, certified by the Auditor General of Canada, which reflects the financial position of the various Commission plants and projects.

Also included are the Commission's supplementary detailed statements as follows :

- (1) Assets and Liabilities, by plants, as at March 31, 1960.
- (2) Income and Expenses, by plants, for the year ended March 31, 1960.
- (3) Surplus, by plants, for the year ended March 31, 1960.

Ottawa, July 8, 1960.

The Honourable Alvin Hamilton,
Minister of Northern Affairs and National Resources,
Ottawa.

Sir,

The accounts and financial statements of Northern Canada Power Commission have been examined for the year ended March 31, 1960. In compliance with the requirements of section 87 of the Financial Administration Act I now report that, in my opinion :

- (a) proper books of account have been kept by the Commission;
- (b) the financial statements of the Commission
 - (i) were prepared on a basis consistent with that of the preceding year and in agreement with the books of account;
 - (ii) in the case of the balance sheet, give a true and fair view of the state of the Commission's affairs as at the end of the financial year, and
 - (iii) in the case of the statement of income and expense, give a true and fair view of the income and expense of the Commission for the financial year; and
- (c) the transactions of the Commission that have come under my notice have been within the powers of the Commission under the Financial Administration Act and any other Act applicable to the Commission.

Yours faithfully,

Original signed by

A. M. Henderson,
Auditor General.

NORTHERN CANADA
(Established by the Northern
Balance Sheet
(with comparative figures)

Assets

	1960	1959
Current Assets :		
Cash	\$ 2,891,568	\$ 1,538,343
Accounts receivable	1,064,312	1,020,692
Inventories of maintenance and operating supplies and spare parts, at cost	331,360	176,910
Investment in Government of Canada Bonds, at cost, including accrued interest (market value, \$494,000)	498,750	498,750
Prepaid and deferred expenses	11,667	12,451
Total Current Assets	<u>4,797,657</u>	<u>3,247,146</u>
Contractors' Security and other Deposits (contra)	256,449	351,417
Advances pursuant to agreements entered into under the Atlantic Provinces Power Development Act, in- cluding accrued interest of \$202,285 :		
New Brunswick Electric Power Commission	\$ 3,646,105	1,080,182
Nova Scotia Power Commission	<u>5,554,764</u>	
	9,200,869	
Capital Assets, at cost :		
Power plants	13,512,884	6,555,194
Transmission and distribution facilities	2,420,681	2,089,657
Staff dwellings, warehouses and miscellaneous build- ings	741,970	619,340
Communication, transportation and other equipment	469,080	450,539
Projects under construction	<u>10,119,568</u>	<u>12,984,800</u>
	27,264,183	22,699,530
Less: Accumulated provisions for depreciation (equivalent to cumulative total of annual repay- ments of principal of advances from the Govern- ment of Canada)	<u>3,515,106</u>	<u>2,966,707</u>
	23,749,077	19,732,823
	<u>\$38,004,052</u>	<u>\$24,411,568</u>

Certified correct :

(Sgd.) T. A. Stott
Secretary-Comptroller

Approved :

(Sgd.) R. G. Robertson
Chairman

ER COMMISSION

da Power Commission Act)

arch 31, 1960

t March 31, 1959)

Liabilities

Current Liabilities :	1960	1959
Accounts payable	\$ 721,057	\$ 872,333
Due to Government of Canada :		
Advances in excess of requirements	\$ 57,049	
Instalment of principal and interest on advance in respect of Whitehorse Rapids Power Plant	365,829	
	<hr/>	
Contractors' holdbacks	422,878 8,527	54,357
	<hr/>	<hr/>
Total Current Liabilities	1,152,462	926,690
Security Deposits :		
Consumers	81,295	78,905
Construction contractors	175,154	272,512
	<hr/>	<hr/>
	256,449	351,417
Advances from the Government of Canada pursuant to agreements entered into under the Atlantic Prov- inces Power Development Act, including accrued interest	9,200,869	1,080,182
Reserve for Contingencies, pursuant to section 10 of the Act	815,000	676,552
Reserve for Extension, Expansion and Improvements, as permitted under section 22 of the Act	211,748	106,378
Capital :		
Advances from the Government of Canada :		
Under section 14 of the Act	50,000	50,000
Under section 15 of the Act, including accrued in- terest of \$403,893 on advances for projects under construction	25,807,430	20,856,472
	<hr/>	<hr/>
	25,857,430	20,906,472
Surplus, per Statement of Surplus	510,094	363,877
	<hr/>	<hr/>
	26,367,524	21,270,349
	<hr/>	<hr/>
	\$38,004,052	\$24,411,568

Certified in accordance with my report dated July 8, 1960 to the Minister of Northern Affairs and National Resources, under section 87 of the Financial Administration Act.

Original signed by

A. M. Henderson,
Auditor General of Canada.

NORTHERN CANADA POWER COMMISSION

Statement of Income and Expense for the year ended March 31, 1960 (with comparative figures for the year ended March 31, 1959)

	1960	1959
Income		
Sales of power :		
Mining	\$1,023,027	\$1,006,647
Commercial	1,079,145	333,291
Domestic	137,926	75,734
	<hr/> 2,240,098	<hr/> 1,445,672
Sales of steam and water heat	191,305	—
Miscellaneous	75,622	36,159
	<hr/> \$2,507,025	<hr/> 1,481,830
Expense		
Operating expenses :		
Salaries and wages	393,280	185,282
Fuel oil	262,935	48,864
Power purchased for resale	46,552	44,615
Generating plant and line rental	25,900	2,400
Travel and removal expenses	30,279	8,859
Board and lodging (net)	28,577	5,401
Charter of aircraft	11,302	11,427
Trucks, tractors, etc.	7,387	5,803
Insurance	4,615	3,071
Miscellaneous	23,171	17,430
	<hr/> 833,998	<hr/> 333,152
Maintenance :		
Structures and improvements	30,217	75,631
Equipment	42,077	21,672
	<hr/> 72,294	<hr/> 97,303
Administrative :		
Salaries	100,370	66,121
Employees' welfare benefits (included in salaries in 1959)	28,787	—
Office rent	12,300	11,275
Miscellaneous	14,056	8,324
	<hr/> 155,513	<hr/> 85,720
Interest on advances from the Government of Canada	506,538	230,583
Provision for depreciation (equivalent to annual re- payment of advances from the Government of Canada)	548,398	456,551
	<hr/> \$2,116,741	<hr/> \$1,203,309
Net Income, carried to Surplus Account	<hr/> \$ 390,284	<hr/> \$ 278,521

NORTHERN CANADA POWER COMMISSION

Statement of Surplus for the year ended March 31, 1960

Balance as at April 1, 1959		\$363,877
Deduct :		
Transfer to Reserve for Contingencies	\$138,448	
Transfer to Reserve for Extension, Expansion and Improvements of amounts equivalent to expenditures incurred on acquisition of capital assets, as permitted under section 22 of the Act	105,371	
Prior year's adjustments in respect of the power plant at Frobisher Bay, operated under a rental agreement dated March 31, 1960 between the Commission and the Department of Transport, with retroactive effect :		
Operating and maintenance expenses for the period November, 1958 to March 31, 1959	\$35,508	
Income from sale of power for the period February and March, 1959	35,260	
Net operating loss	248	
		244,067
		119,810
Add : Net income for the year, per Statement of Income and Expense		390,284
Balance as at March 31, 1960		\$510,094

NORTHERN CANADA POWER COMMISSION Assets and Liabilities, by Plants and Projects, as at March 31, 1960

ASSETS

Cash :

Capital Account
Special Account

Accounts Receivable

Prepaid Expenses :

Inventories of maintenance and
operating supplies and spare
parts — at cost

Other prepaid expenses

Bonds held as Security Deposits
(contra)

Advances pursuant to Agreements
entered into under the Atlantic
Provinces Power Development Act,
including interest :

New Brunswick Electric Power
Commission

Nova Scotia Power Commission

Investments in Government of Can-
ada Bonds, at cost, including
accrued interest (market value
\$494,000.)

Deferred Expenses - Improvements
to leased premises

Capital Assets, at cost :

Power Plants
Transmission and distribution fa-
cilities
Staff dwellings, warehouses and
miscellaneous buildings
Communication, transportation and
other equipment
Projects under construction

Less : Accumulated provisions for
depreciation (equivalent to cu-
mulative total of annual repay-
ments of principal on advances
from the Government of Canada)

Total Assets

	SNARE RIVER PLANT	FORT SMITH PLANT	MAYO RIVER PLANT	FORT SIMPSON PLANT	WHITE- HORSE RAPIDS PLANT	INUVIK PLANT	FROBISHER BAY PLANT	FIELD PLANT	HEAD OFFICE	TOTAL
	\$2,836,582	\$(38,613)	\$ 78,333	\$(6,269)	\$ 134,851	\$(319,610)	\$165,738	\$ 25,296	\$ 34,502	\$ 2,910,810
	223,727	(116,833)	125,481	(37,666)	376,899	(349,015)	(127,549)	(5,878)	(76,959)	12,207
	146,647	60,039	86,971	14,840	109,632	286,181	265,272	5,699	89,031	1,064,312
	26,042	87,255	17,985	17,838	15,209	151,513	9,422	3,999	2,097	331,360
	413	1,217	608	743	584	737	96	1,331		5,729
	150,000		25,000			50,000				225,000
									3,646,105	3,646,105
									5,554,764	5,554,764
	221,165	29,488	248,097							498,750
									5,938	5,938
	2,593,103	226,821	3,746,178	109,176	6,741,348			96,258		13,512,884
	1,425,750	107,477	568,317	23,679	246,225			49,233		2,420,681
	310,973	29,516	259,374	18,907	77,402			45,798		741,970
	287,756	19,252	111,861	8,863	23,078			8,709	9,561	469,080
	2,720,221			8,800		7,242,618	147,929			10,119,568
	(2,095,229)	(65,645)	(1,264,893)	(13,570)	(75,769)					(3,515,106)
	\$8,847,150	\$339,974	\$4,003,312	\$145,341	\$7,649,459	\$7,062,424	\$460,908	\$230,445	\$9,265,039	\$38,004,052

NORTHERN CANADA POWER COMMISSION Assets and Liabilities, by Plants and Projects, as at March 31, 1960

LIABILITIES

Accounts Payable

Due to Government of Canada:

Advances in excess of require-
ments

Instalment of principal and interest
on advance in respect of White-
horse Rapids plant

Contractors' Holdbacks

Security Deposits:

Consumers

Construction contractors

Advances from the Government of
Canada, pursuant to Agreements
entered into under the Atlantic
Provinces Power Development Act,
including accrued interest of
\$202,285.

Reserve for Contingencies

Reserve for Extension, Expansion and
Improvements, as permitted under
section 22 of the Act

Capital:

Advances from the Government of
Canada:

Under section 14 of the Act ..

Under section 15 of the Act,
including accrued interest of
\$403,893. on advances for
projects under construction

Surplus, per Statement of Surplus

Total Liabilities

	SNARE RIVER PLANT	FORT SMITH PLANT	MAYO RIVER PLANT	FORT SIMPSON PLANT	WHITE- HORSE RAPIDS PLANT	INUUVIK PLANT	FROBISHER BAY PLANT	FIELD PLANT	HEAD OFFICE	TOTAL
	\$ 438,110	\$ 3,477	\$ 3,984	\$ 2,682	\$ 8,093	\$ 176,968	\$ 57,989	\$ 15,584	\$ 14,170	\$ 721,057
					51,487			5,562		57,049
					365,829					365,829
6,027					2,500					8,527
50,000		3,045	25,675	830		1,245		500		81,295
113,000					5,852	50,000		6,302		175,154
									9,200,869	9,200,869
300,000		40,000	400,000		75,000					815,000
99,957		106,377		5,414						211,748
									50,000	50,000
7,570,615		177,057	3,498,977	136,550	7,124,231	6,800,000	300,000	200,000		25,807,430
269,441		10,018	74,676	(135)	16,467	34,211	102,919	2,497		510,094
\$8,847,150	\$339,974	\$4,003,312	\$145,311	\$7,649,459	\$7,062,424	\$460,908	\$230,445	\$9,265,039	\$38,004,052	

NORTHERN CANADA POWER COMMISSION Statement of Income and Expense, by Plants for the year ended March 31, 1960

	SNARE RIVER PLANT	FORT SMITH PLANT	MAYO RIVER PLANT	FORT SIMPSON PLANT	WHITE- HORSE RAPIDS PLANT	INUUVIK PLANT	FROBISHER BAY PLANT	FIELD PLANT	HEAD OFFICE	TOTAL
Income										
Sales of Power:										
Mining	\$558,750	\$ 87,404	\$464,277	\$ 40,331	\$ 445,219	\$ 66,902	\$ 289,351	\$ 9,017	\$	\$1,023,027
Commercial	115,944	71,340	8,598	10,552		20,414	22,740	4,282		1,079,145
Domestic						191,305				137,926
Sales of Steam and Water Heating						25,138	42	299	14,193	191,305
Miscellaneous	12,354	6,137	11,800	1,009	4,650					75,622
	\$687,048	\$164,881	\$509,652	\$51,892	\$449,869	\$303,759	\$312,133	\$13,598	\$14,193	\$2,507,025
Expense										
Operating Expenses:										
Salaries and wages	71,237	52,729	39,124	20,625	46,167	103,763	53,764	5,871		393,280
Fuel oil	1,406	52,728		7,914		128,993	69,517	2,377		262,935
Power purchased for resale	46,552									46,552
Plant and line rentals	2,400						23,500			25,900
Travel and removal expenses	3,096	2,360	2,715	1,765	1,152	13,676	5,198	317		30,279
Board and lodging (net)	2,483						26,094			28,577
Charter of aircraft	11,302									11,302
Trucks, tractors, etc.	1,913	1,444	1,778	263	449	1,219	241	80		7,387
Insurance	574	1,319	1,110	668	385	191	176	192		4,615
Miscellaneous	5,329	3,664	2,182	1,941	4,707	1,545	3,085	718		23,171
Maintenance Expenses:										
Structures and improvements	24,764	841	3,176	303	778	118	235	2		30,217
Equipment	6,545	10,083	12,352	4,962	1,482	2,235	4,180	238		42,077
Administration:										
Salaries	5,962	2,895	5,119	772	5,535	2,377	9,412	379	67,920	100,371
Employees' welfare benefits (included in salaries in 1959)	5,774	2,539	2,717	1,073	3,046	5,247	3,321	490	4,580	28,787
Office rent									12,300	12,300
Miscellaneous	1,038	744	1,217	31	1,014	159	217	37	9,598	14,055
Head office assessment	20,051	6,015	16,041	1,605	16,042	10,025	10,026	400	(80,205)	
Interest on advances from the Government of Canada	86,221	6,877	118,222	5,158	290,060					506,538
Provision for depreciation (equal to annual repayment of principal of advances from the Government of Canada)										
	239,293	12,926	214,669	5,741	75,769					548,398
	\$535,940	\$157,164	\$420,422	\$52,821	\$446,586	\$269,548	\$208,966	\$11,101	\$14,193	\$2,116,741
Net Income, carried to Surplus Account	\$151,108	\$ 7,717	\$ 89,230	\$ (929)	\$ 3,283	\$ 34,211	\$103,167	\$ 2,497		\$ 390,284

171159 13732 105271 676 19328 4528 110193 2818

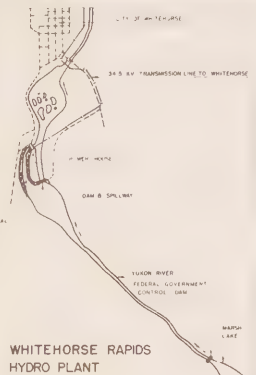
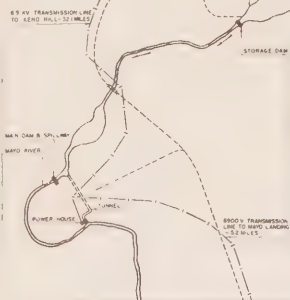
NORTHERN CANADA POWER COMMISSION
Surplus, by Plants, for the year ended March 31, 1960

	SNARE RIVER PLANT	FORT SMITH PLANT	MAYO RIVER PLANT	FORT SIMPSON PLANT	WHITE- HORSE RAPIDS PLANT	INUUVIK PLANT	FROBISHER BAY PLANT	FIELD PLANT	TOTAL
Balance at beginning of year	\$218,290	\$ 2,301	\$48,894	\$6,208	\$88,184	\$	\$	\$	\$363,877
Add: Net Income for year	151,108	7,717	89,230	(929)	3,283	34,211	103,167	2,497	390,284
	359,398	10,018	138,124	5,279	91,467	34,211	103,167	2,497	754,161
Deduct:									
Transfer to Reserve for Contingencies			63,448		75,000				138,448
Transfer to Reserve for Extension, Expansion and Im- provements, as permitted under section 22 of the Act									
	99,957			5,414					105,371
Prior Year's Adjustment in respect to the power plant at Frobisher Bay operated under a rental agreement dated March 31, 1960 between the Commission and the Department of Transport - net loss							248		248
	99,957		63,448	5,414	75,000		248		244,067
Balance at end of year	\$269,441	\$10,018	\$74,576	\$ (135)	\$16,467	\$34,211	\$102,919	\$2,497	\$510,094

INUVIK UTILITY PLANT
1 STEAM TURBINE - 600 KW
4 DIESEL UNITS - 1900 KW
TOTAL CAPACITY - 2500 KW
3-30,000 LB PER HR BOILERS

FORT McPHERSON DIESEL PLANT
2 UNITS - 225 KW TOTAL

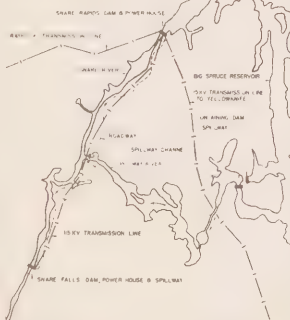
MAYO RIVER
HYDRO PLANT



WHITEHORSE RAPIDS
HYDRO PLANT

FORT SIMPSON DIESEL PLANT
4 UNITS - 550 KW TOTAL

SNARE RIVER
HYDRO PLANT



FORT RESOLUTION DIESEL PLANT
3 UNITS - 325 KW TOTAL

FORT SMITH DIESEL PLANT
3 UNITS - 1875 KW TOTAL

FIELD DIESEL PLANT
3 UNITS - 400 KW TOTAL





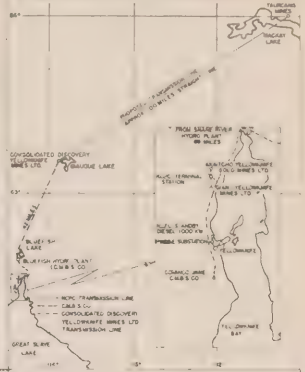
NORTHERN CANADA POWER COMMISSION

CANADA

MILES 100 50 0 100 200 300 400 MILES
KILOMETRES 100 0 100 200 300 400 500 600 KILOMETRES

Federal Capital...● Provincial Capital...●
Railways
Highways

YELLOWKNIFE AREA TRANSMISSION LINES



YELLOWKNIFE STANDBY DIESEL PLANT
1 UNIT - 1000 KW

FROBISHER BAY DIESEL PLANT
6 UNITS - 3100 KW TOTAL



Above — Snare Falls Power Development — Intake Structure, September 1959.



Above — Snare Falls Power Development — Draft Tube Formwork.



Above — Snare Falls Power Development — Powerhouse, March 1960.



Left — Yellowknife Terminal Station — Terminus of Transmission Line from Snare River Power Plant.



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NORTHERN CANADA POWER COMMISSION



THIRTEENTH
**ANNUAL
REPORT**
1960-1961





Snare Rapids Spillway Structure viewed (left) from upstream
and (right) from downstream



Snare Falls Power House and Spillway
during construction — June 1960



Completed Snare ^{Falls} Rapids Development



ANNUAL REPORT

of the

**Northern Canada
Power Commission**

for the Fiscal Year ended March 31, 1961

OTTAWA, CANADA

Northern Canada Power Commission

1960 - 1961

R. G. Robertson	Chairman
T. M. Patterson	Member
J. F. Parkinson	Member
E. W. Humphrys	General Manager - Chief Engineer
T. A. Stott	Secretary-Comptroller

Northern Canada Power Commission

June 28, 1961.

The Honourable Walter Dinsdale, M.P.,
Minister of Northern Affairs and National Resources,
Ottawa, Ontario.

Dear Sir,

I beg to submit herewith the report of the Northern Canada Power Commission for the fiscal year ending March 31, 1961, as required under Section 24 of the Northern Canada Power Commission Act, Chapter 42, 4-5, Eliz. II.

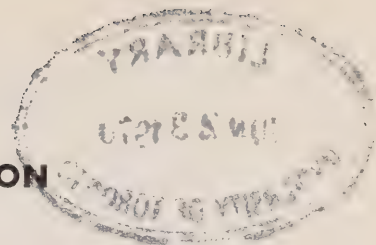
Respectfully submitted,

R. G. ROBERTSON,

Chairman.



ANNUAL REPORT
of the
NORTHERN CANADA POWER COMMISSION
for the Fiscal Year ended
March 31, 1961
OTTAWA, CANADA



The Northern Canada Power Commission operates under authority of the Northern Canada Power Commission Act (4-5 Eliz. II, Chap. 42). The Commission is empowered to construct and operate public utility plants in the Northwest Territories and Yukon Territory and, subject to approval of the Governor General-in-Council, elsewhere in Canada. It is a requirement of the authorizing Act that projects undertaken by the Commission shall be self-sustaining; consequently rates charged for utilities supplied must provide sufficient revenue to cover interest on investment, repayment of principal over a period of years, operating and maintenance expenses and contingency reserve. The Commission is thus a Federal Government Agency concerned with the construction and management of public utilities on a commercial basis.

In keeping with the development and growth of the areas served all but one of the Commission's plants experienced an increase in power output during the year. The generating capacity of several plants was increased involving installation of seven new diesel units, two new plants were commissioned, additional operating functions were undertaken at Fort Simpson, N.W.T., and two proposed projects were investigated. In consequence, the year witnessed a marked increase in assets and income and an abnormally heavy construction program was carried out. The charts on pages 14 and 15 of this report effectively illustrate the increased activities of recent years culminating in the completion and enlargement of several projects during the past year.

Currently the Commission operates four hydro stations and six thermal plants. These are as follows:

- (i) *Snare River Hydro Development, N.W.T.* — situated some ninety miles northwest of Yellowknife, N.W.T. supplying the Yellowknife area. This development comprises the 8,350 HP Snare Rapids plant commissioned in 1948 and the 9,200 HP Snare Falls plant which was placed in service in December, 1960. These two generating

stations are connected to a terminal transformer station near Yellowknife by a 115 KV wood pole transmission line. Interconnection with the Consolidated Mining and Smelting Company Limited's Bluefish Hydro Plant is provided by a short 34.5 KV transmission line extending from the terminal station to a nearby point on the Bluefish-Yellowknife transmission line. The Snare River system includes a 1,000 KW Diesel standby plant located in the Yellowknife townsite.

- (ii) *Mayo River Hydro Plant, Y.T.* — commissioned in November, 1952 as a 3,000 HP plant and increased to 6,000 HP by addition of a second unit in 1957. This plant is located about 5 miles north of Mayo Landing, Y.T. and supplies power over approximately 32 miles of 69,000 volt line to mining properties in the vicinity of Elsa and Keno and a privately owned distribution system serving the community of Keno City. A 6,900 volt transmission line extends from the generating plant to supply the Commission-owned distribution system serving the Mayo Landing community.
- (iii) *Whitehorse Rapids Hydro Plant, Y.T.* — a two unit 15,000 HP development located on the Yukon River about two miles upstream from Whitehorse, commissioned in 1958. This plant supplies the Department of National Defence installations in the Whitehorse area and by supplementing the Yukon Electric Company's own hydro generation, a substantial portion of the requirements of the City of Whitehorse; in addition, power that is currently surplus is supplied directly to the Department of National Health and Welfare hospital and two hostels operated by the Indian Affairs Branch of the Department of Citizenship and Immigration, for heating purposes through the medium of electric boilers.

- (iv) *Fort Smith Diesel Plant, N.W.T.* — established in 1950 as a 350 KW plant and enlarged in 1955, 1958 and 1960; this plant currently has an intalled capacity of 1,875 KW. The associated distribution system serves the Fort Smith townsite and airport areas.
- (v) *Fort Simpson Diesel Plant, N.W.T.* — established in 1956 with a capacity of 225 KW and enlarged in 1957 and 1960 to the present installed capacity of 550. The Fort Simpson community is served by the Commission owned distribution system and the airport area will be supplied upon completion of a 12 mile transmission line early in the ensuing year. The central heating system serving the new federal school, hostels, and associated residences, and the water and sewerage systems serving the community both of which were commissioned in 1960 are being operated by the Commission on behalf of the Department of Northern Affairs and National Resources.
- (vi) *Inuvik Utility Plant, N.W.T.* — This plant comprises a 2,500 KW generating station combined with a central heating plant having a capacity of 90,000 lbs. steam per hour, a water pumping and treatment plant, and an above ground system of utilidors distributing central heat and water and sewerage services to the central portion of the townsite; an associated electrical distribution system supplies power to the entire area. Supply of power commenced in October, 1958 and the central heating water and sewerage systems were commissioned in 1959.
- (vii) *Frobisher Bay Diesel Plant, N.W.T.* — A 3,100 KW diesel plant with associated distribution system supplying the Frobisher Bay Airport and adjacent area, and the nearby Apex Hill settlement.
- (viii) *Field Diesel Plant, B.C.* — A 400 KW diesel plant with associated distribution system commissioned in 1959, supplying the general area of Field, B.C., the administrative centre for the Yoho National Park.
- (ix) *Fort Resolution Diesel Plant, N.W.T.* — This plant with a total installed capacity of 325 KW was placed in service in February 1961 and serves the settlement of Fort Resolution.
- (x) *Fort McPherson, N.W.T.* — This operation comprises a 225 KW diesel gener-

ating plant supplying the school and hostel and a small number of government and private premises in the settlement, together with the heating plant, water supply and sewage disposal facilities for the hostel. These facilities are owned by the Department of Northern Affairs and National Resources and are operated by the Commission on behalf of the Department.

ORGANIZATION AND PERSONNEL

There were no significant changes in the Commission organization during the year. Because of additional operating responsibilities undertaken the number of full time employees increased from 128 to 150 of which 29 are in Head Office and 7 are attached to the Regional Office in Edmonton. Wages and salaries, including temporary staff employed on construction work, totalled \$942,571 as compared with \$677,565 for the previous year.

OPERATIONS

A tabulation of statistical data pertaining to the production of power at the various plants appears at page 13 of this report, and a map showing the location of each operation is included following the financial statements. A description of the major activities during the year in connection with each plant follows.

SNARE RIVER HYDRO, N.W.T.

As in the previous year the total demand, exclusive of boiler sales, exceeded the capacity of the Snare Rapids Plant. However water supply was satisfactory and the continued supply of 500 KW of firm power from the Consolidated Mining and Smelting Company's Bluefish Hydro plant, until December when power from the new Snare Falls plant became available, made it possible to meet the demand without resorting to diesel assistance. Sale of primary power increased by 3.5% but because of reduced secondary or boiler power sales, due to capacity limitations, the increase in total output was 2%.

Construction of the Snare Falls Hydro Plant was completed during the year and the plant was commissioned on December 11, 1960. With the advent of this plant the Snare River Development now has sufficient capacity to meet the foreseeable primary load of the Yellowknife area. In addition, it is anticipated that a substantial amount of secondary power will be available and negotiations regarding redevelopment of a major electric boiler load were in hand at year end.

SNARE FALLS POWER PLANT, N.W.T.

The new Snare Falls development comprises a dam across a narrow section of the Snare River at a point approximately 10 miles downstream from the original Snare Rapids Development, a power canal with spillway and intake structures, and a conventional indoor type powerhouse located a short distance downstream of the dam. The main dam of the earth core type is 75 feet high and some 450 feet long. Two auxiliary earth-fill dams each approximately 350 feet long by 20 feet high were constructed at depressions in the river valley to close the headpond above the new dam. The main dam raises the level of the river to that of the tailrace of the upstream Snare Rapids Plant, thereby increasing the 20 feet of natural head that existed at the Snare Falls site to an effective head of 63 feet at full supply level. The headpond above the dam provides 1,500 acre feet of pondage assuming an operating drawdown of 3 feet.

The power canal, a rock excavation, approximately 400 feet long, 30 feet wide and up to 70 feet deep extends around the right or west abutment of the main dam. At the end of the canal is a concrete spillway structure with two steel sluice gates 20 feet wide by 24 feet high, and immediately upstream and to the left of the spillway is the concrete intake structure containing a steel head gate 15 feet wide by 17 feet high. During construction of the dam the river flow was diverted to the canal by a cofferdam upstream of the main dam, and was discharged through an auxiliary tunnel extending from the end of the canal, midway between the intake and spillway structures; the diversion tunnel discharged to the spillway channel which returned the flow to the river a short distance downstream of the powerhouse site. The alignment of the diversion tunnel was arranged so that a portion of it can be used as a penstock tunnel for a future additional generating unit; in the meantime the diversion tunnel has been sealed off at the canal by a submerged gate.

A 17 foot diameter penstock tunnel approximately 95 feet long with 14 foot diameter steel liner extends from the intake structure to the powerhouse. Generating equipment contained in the powerhouse comprises a single Kaplan type, vertical, 225 RPM turbine rated at 9,200 HP, coupled to a 7,000 KVA alternator, an eight panel switchgear and miscellaneous auxiliary equipment.

The Snare Falls plant is arranged for remote automatic control from the Snare Rapids plant, thereby obviating the need for operating staff and living accommodation for same. However, a small apartment has been provided in the powerhouse structure to accommodate

inspecting or maintenance personnel that may be obliged to remain at the plant because of inclement weather or during major maintenance operations.

Power from the new plant is fed into the system via a 115 KV wood pole H frame transmission line adjoining the road connecting the two plants; this line is tapped into the existing Snare Rapids-Yellowknife transmission line near the Snare Rapids step-up substation through a 115 KV oil filled outdoor circuit breaker controlled from the Snare Rapids control room. A 2-conductor communication cable, carried by a steel messenger attached to the transmission line poles provides a circuit between the two plants for telephone communication, remote control and telemetering purposes.

A step-up substation containing two 4,500/7,500 KVA transformers and two small station service transformers has been erected at the toe of the main dam near the powerhouse and is connected to the switchgear within the powerhouse by cables carried in a concrete cable duct.

Concurrent with erection of the Snare Falls Plant, the original spillway structure on Big Spruce Lake was modified to increase its capacity and to incorporate a travelling power operated stoplog hoist. Heaters have been provided in two of the sluices to facilitate removal of stoplogs during the winter months; power for the heaters, and to operate the hoist, has been provided by a 6,900 volt three phase circuit erected on the main Snare Rapids-Yellowknife transmission line poles from Snare Rapids to the spillway site.

To facilitate the transport of personnel and miscellaneous minor supplies to the job site during the construction period the contractor constructed an 1,800 foot aircraft landing strip near the Snare Falls Plant. This will now be used in place of the somewhat unsatisfactory landing strip on the shore line of the Snare River below the Snare Rapids Plant, during the spring and fall seasons when pontoon or ski equipped aircraft cannot land on Big Spruce Lake above the Snare Rapids dam.

Consequent on the increase in system generating capacity created by the Snare Falls Plant, it was necessary to increase the capacity of the Yellowknife Terminal station by addition of a 7,500 KVA, 115/34.5 KV step-down transformer. Concurrently, switching facilities at this terminal station were arranged for remote control from the Snare Rapids Plant with automatic synchronizing to the Consolidated Mining and Smelting Company's Bluefish Hydro Plant, and telemetering equipment was installed to transmit to the Snare Rapids

Plant the essential values pertaining to the supply and delivery of power through this substation. A new control room was constructed in the Snare Rapids Plant to accommodate the remote control and telemetering equipment associated with the Snare Falls Plant and the Yellowknife terminal station.

With the Yellowknife terminal station placed on remote control from Snare Rapids it became practical to dispense with a full time operator at Yellowknife. A contract has been arranged for expediting services as required for the Snare Rapids Plant, and to look after emergency operating requirements at the Yellowknife terminal station that cannot be handled remotely; it is anticipated that the saving in operating costs resulting from this arrangement will more than offset the annual capital charges incurred in placing the terminal station under remote control.

While cost figures for the Snare Falls project and the various modifications to the original Snare Rapids and Yellowknife installations were not complete at year end, it is evident that the final costs will be appreciably under the original estimate of \$5,200,000.

To provide additional accommodation for married personnel a two bedroom trailer that had been provided for engineering personnel during construction was transferred from the Snare Falls construction camp to a permanent location adjacent to the Snare Rapids residential quarters. Upon completion of construction at Snare Falls two pick-up trucks were retained to provide transport between the two plants; one of these vehicles was subsequently exchanged with a four wheel drive unit from the Fort Smith Plant. Equipment for maintenance of the road between the two plants comprising a snow blower and motorized grader were purchased; in addition a tractor and a portable steam boiler were transferred to Snare River from Inuvik and Fort Simpson respectively.

MAYO RIVER HYDRO, Y.T.

This plant continued to operate at full capacity, the United Keno Hill Mine electric boilers absorbing all output in excess of the demand for primary power, except during the months of December 1960, January and February 1961, when the consumption of secondary power was reduced due to failure of one of the consumer's main transformers. Consequently consumption of secondary power for the year was down by about 16% and total output decreased by about 9%. Consumption in the communities of Mayo and Keno City, while accounting for only a fraction of the total output, increased by over 14%. Due to transmission line maintenance expense operat-

ing costs were approximately 10% higher than for the previous year.

The stubbing of poles on the main transmission line damaged by insect action, which had been commenced in 1959, was continued to completion during the year. Prior to completion of this program three poles failed under high winds resulting in an outage of about 10 hours. Realignment of portions of the highway between Mayo and Elsa necessitated relocation of short lengths of the transmission lines adjoining this roadway.

Plans have been put in hand to improve the water regulation facilities of the Mayo Lake storage dam during the coming summer. This work will involve installation of a timber gate with manually operated hoist in each of the two sluiceways in place of existing stoplogs, as well as maintenance of the sluiceway structure.

WHITEHORSE RAPIDS HYDRO, Y.T.

Power generated at this plant increased by approximately 12,800,000 KWHrs due almost entirely to increased consumption of secondary power consequent on electric heating boilers in the Department of National Health and Welfare hospital being in operation for the full twelve months and commissioning of the electric boilers in the two new Indian Affairs Branch hostels in September.

FORT SMITH, N.W.T.

Following the trend of recent years the number of services increased from 442 to 479 at year end and power output increased by about 19%. There was a corresponding increase of approximately 22% in revenue and operating costs increased approximately 20%.

A heavy duty slow speed diesel generating unit rated at 1,000 KW was installed by Commission forces and placed in service in early November. This new unit has been arranged for operation on Bunker C type fuel supplied from Norman Wells. Operating experience has been satisfactory and an appreciable economy in fuel cost is being realized.

With the addition of this unit there is sufficient capacity to meet a certain amount of load growth but the need of a similar unit in the not too distant future is foreseen if the consumption continues to increase. Upon installation of the new unit the remaining two original units rated at 100 KW and 150 KW, which could no longer serve a useful purpose at Fort Smith, were transferred to the new Fort Resolution Plant.

A number of extensions to the distribution system were constructed to supply additional

consumer premises, and several portions of the system were rebuilt to provide greater capacity.

FORT SIMPSON, N.W.T.

While there was only a minor increase in the number of power service connections the output of power was virtually double that of the previous year. This abnormal increase was due mainly to the additional loads created by the new Federal school and associated hostel and residential premises and the water supply and central heating systems placed in service during the year. To meet this increased demand a new 300 KW diesel generating unit was installed by Commission forces. Installation of this unit rendered one of the original 75 KW sets surplus and it was accordingly transferred to the new Fort Resolution project.

Early in the year operation of the new water supply and sewerage system that had been provided by the Department of Northern Affairs and National Resources to serve the community, was undertaken on behalf of the Department. Similar arrangements were made for Commission operation of the central heating plant and maintenance of mechanical and electrical installations in connection with the new Federal school, two hostels and associated staff residential quarters, upon commissioning of these premises in August 1960. Under these arrangements the Commission is compensated for all direct costs in respect to supplies, materials, operating labour and supervision plus a percentage (currently at the rate of 25%) of direct labour expense in respect to general overhead.

In order that power may be supplied to the airport from the Commission's central plant the Department of Transport undertook provision of a transmission line between the community and the airport some 12 miles distant. At the request of that Department, design and construction of the transmission line was carried out by Commission staff. Work on this project was interrupted over the winter months by cold weather but was resumed before the close of the year, with full expectation that the line would be in service early in the new fiscal year.

INUUVIK, N.W.T.

The year under review saw completion of all major contract construction work in connection with the various federal government premises and the central heating plant and utilidor system, except for a small group of houses that were not completed at the close of the construction season. With the exception of these premises utilidor services comprising

central heat, water and sewerage service and power were connected to all premises in the serviced area that were intended to be supplied with these services. An additional diesel generating unit was installed in the power plant and a number of improvements to various features of the plant and the water and sewerage systems which experience had shown to be desirable were carried out. All outstanding work under the original general construction contract was completed.

With the townsite becoming fully operational during the year and the resulting connection of newly completed premises such as the hospital and nurses residence, and the Naval Administration building, there was a marked increase in the demand for heat which was 64% higher than during the preceding year. At year end the central heating plant was supplying 151 premises and there were 149 connections to the water and sewerage system.

Sales of electric energy also showed a marked increase with consumption being about 2½ times greater than that for the previous year and electrical service connections increased from 212 to 349. To provide adequate generating and reserve capacity to supply this increased demand a 1,000 KW diesel unit was installed during the year; this unit was placed in service in December and increases the installed generating capacity to a total of 2,500 KW.

If the power demand continues to increase a further addition to installed capacity will be required to provide adequate reserve during winter conditions. Consequently engineering studies were undertaken during the year to determine how such additional capacity can best be supplied; these studies indicate that an additional diesel unit similar to that installed in 1960 would be the most economical scheme.

Maintenance of the mechanical and electrical installations in the various government buildings by Commission staff on behalf of the Department of Public Works, under an arrangement similar to that applying at Fort Simpson, was continued. Similar arrangements were made with Canadian National Telegraphs for the maintenance and routine servicing of the automatic telephone system that was installed during the year by that company.

FORT McPHERSON, N.W.T.

Operation of the power plant supplying all government premises and a small number of private consumers in the settlement, and the heating plant, and water supply and sewage disposal services for the hostel, on behalf of

the Department of Northern Affairs and National Resources was continued; in addition, maintenance services were provided in respect to the electrical and mechanical installations associated with the school and hostel. These services are provided by the Commission under arrangements similar to that described in connection with Fort Simpson.

In order to supply the increased power demand arising from installation of electric cooking ranges in the hostel, and construction of a new water supply system, a 150 KW diesel generating unit was installed in the hostel/school power plant by Commission forces on behalf of the Department of Northern Affairs and National Resources.

FROBISHER BAY, N.W.T.

As indicated in last year's report, plans were put in hand near the close of that year for the installation of two additional diesel generating units having a total capacity of approximately 2,000 KW to meet anticipated increased demand and provide adequate standby capacity. Installation of these two units, including modification of the powerhouse building to accommodate them, was completed during the year. Approximately one mile of 4,160 volt transmission line was constructed and necessary switchgear and transformer installations carried out to supply the new U.S.A.F. Air Base; delivery of power to this consumer commenced in February. A two bay prefabricated garage building was provided for Commission owned vehicles.

Power sales increased by 26% over the previous year and at year end there were 99 connected services, apart from the Apex Hill village, airport installations and the U.S.A.F. Air Base which are supplied on a wholesale basis.

By the end of the third quarter of the year it became evident that revenue from power sales was substantially greater than earlier forecasts; consequently it was decided to effect a general reduction of 2 cents per kilowatt hour in all power rates retroactive to the first of the year.

FIELD, B.C.

The year marked the first full year of operation for this plant. Installation of the 100 KW unit mentioned in the previous report was completed by year end. Load and income from power sales reached predicated levels but operating and maintenance costs exceeded revenue by some \$3,300. This excess was due in a large part to abnormal maintenance costs incurred as a result of one of the generators being severely damaged by lightning. At year end 119 services were connected.

FORT RESOLUTION, N.W.T.

Construction of this plant was carried on during the year by Commission staff. The plant was placed in service in February with two units in operation. Installation of the third unit, the 150 KW machine transferred from Fort Smith, was in hand at the close of the year with completion scheduled for early in the new year. This plant serves the installations of the Departments of Transport and Northern Affairs and National Resources and a number of private consumers in the settlement, totalling 20 services at year end.

INVESTIGATIONS

GLACIER NATIONAL PARK, B.C.

At the request of the Parks Branch of the Department of Northern Affairs and National Resources, preliminary studies were undertaken concerning a source of power to supply the Parks Branch installations and the general public in Glacier National Park. Arrangements were made with the Water Resources Branch of the Department of Northern Affairs and National Resources for a reconnaissance survey in the vicinity of the Glacier townsite to assess the hydro power possibilities. This survey has shown that further investigation of the possible hydro sites in the area should be undertaken to determine whether a hydro or diesel development will be the most economical scheme, consequently additional studies are to be carried out during the coming summer.

NORMAN WELLS, N.W.T.

Establishment of a central thermal type generating station at Norman Wells, N.W.T., to supply the increasing power requirements of the Department of Transport and others was investigated at the request of that Department. These studies were undertaken in conjunction with the Imperial Oil Company since the present source of power is the diesel plant associated with the oil refinery. Several schemes were studied but because of the comparatively small total demand of the area and the predominating influence of the power load of the oil refinery and associated premises, it was found that a Commission owned plant could not supply power as economically as the existing arrangements. The studies culminated in an offer by the Imperial Oil Company to increase the capacity of the refinery power plant and continue to supply the area at a rate for power appreciably lower than could be expected from a Commission plant; in consequence, this investigation, as a Commission project, was terminated, negotiations with the Imperial Oil Company being carried on by the Department of Transport.

DAWSON CITY, Y.T.

Following representations received through the Department of Northern Affairs and National Resources, supported by the Commissioner of the Yukon Territory, the Commission has arranged for a study of the utility situation at Dawson City. The primary objective is to determine the most suitable arrangements to provide a supply of power and maintain operation of the domestic water supply system in the event that the present power supply, from a hydro plant associated with gold dredging operations, ceases to be available due to termination of the existing mining activities. This investigation is to be carried out during the coming summer under arrangements made with the Commissioner of the Yukon Territory whereby the Yukon Territorial Government will be responsible for one half the cost.

THE ATLANTIC PROVINCES POWER DEVELOPMENT ACT

Payments to the Nova Scotia Power Commission for construction claims submitted during the year amounted to \$1,634,920.15 bringing the total of advances in respect to projects in Nova Scotia to \$7,087,536.94 as at March 31, 1961.

Payment of New Brunswick Electric Power Commission construction claims totalled \$2,912,054.95 for the year, increasing the total of advances in respect to New Brunswick projects to \$6,458,021.53 as at March 31, 1961.

Consequent on increased construction costs and a number of mandatory design changes subsequent to preparation of the estimates on which original approvals were based, the approved estimated cost of a number of transmission line and terminal station projects in New Brunswick and Nova Scotia were revised upwards thereby increasing the total estimated costs of previously approved Atlantic Provinces Power Development Act projects in New Brunswick to \$8,730,000 and \$7,325,000 for projects in Nova Scotia.

Additional projects as detailed below were approved for assistance under the provisions of the Atlantic Provinces Power Development Act thereby increasing the total value of approved projects in both provinces to \$21,770,000.

New Brunswick:

	<i>Est. Cost</i>
Grand Falls to Beechwood transmission line	\$ 901,000
Beechwood to Fredericton transmission line (No. 2 circuit)	1,750,000
Bathurst to Dalhousie transmission line	1,375,000
Bathurst terminal station	725,000
Beechwood terminal station extension	328,000
Grand Falls terminal station extension	75,000
Grand Lake terminal station extension	80,000
	<hr/> 5,234,000
Est. cost of previously approved projects	8,730,000
	<hr/>
Total est. cost of projects approved to March 31, 1961	13,964,000

Nova Scotia:

	<i>Est. Cost</i>
Cowie Falls to Sable River transmission line	\$ 415,000
Bear River to Big Falls transmission line improvements	61,000
Ruth Falls to Truro transmission line improvements	5,000
	<hr/> 481,000
Est. cost of previously approved projects	7,325,000
	<hr/>
Total est. cost of projects approved to March 31, 1961	7,806,000

During the year the province of Newfoundland submitted a request for assistance under the Atlantic Provinces Power Development Act in respect to a transmission line project extending from Whitbourne to Peters River, Newfoundland, the cost of which has been estimated to be \$595,000. At year end action was in hand to obtain the required approval by the Governor General in Council in respect to a Master Agreement between Canada and the province in compliance with the provisions of the Atlantic Provinces Power Development Act, and to authorize the Commission to undertake the particular project for which assistance has been requested.

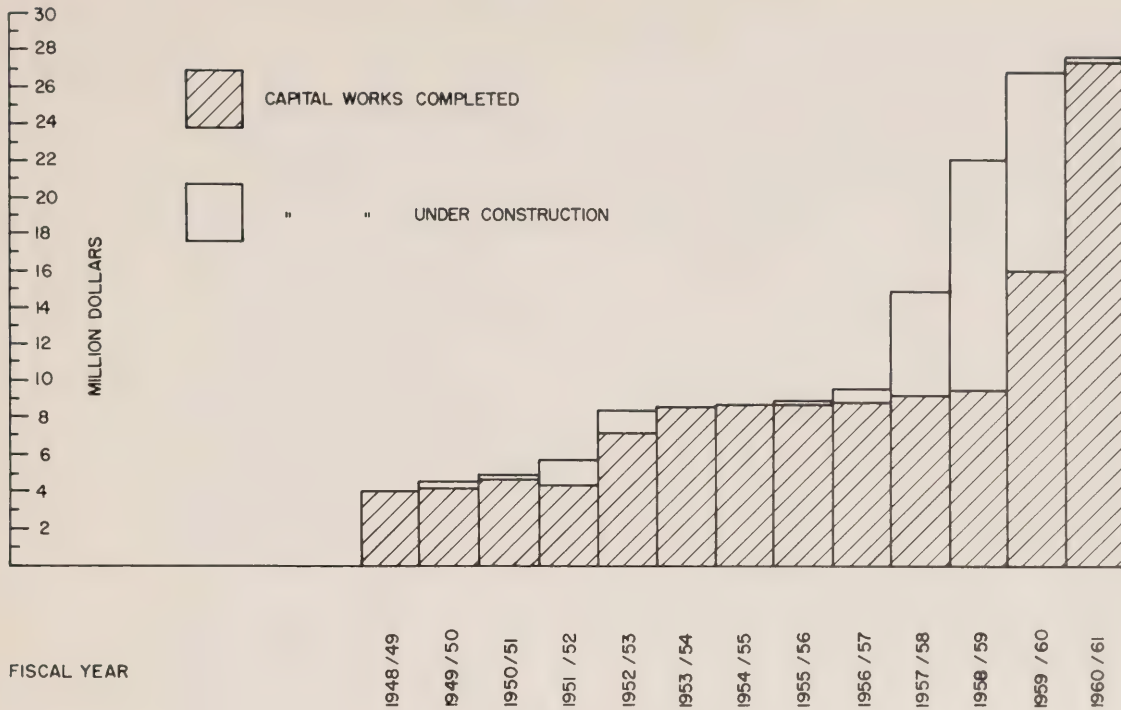
STATISTICAL DATA — 1960-1961

	PEAK LOAD KW	GENERATED (KWHrsX1000)	SALES (KWHrsX1000)
SNARE HYDRO	10000 (7800)	49018 (46034)	—
Purchased	—	3051 (2856)	—
Industrial — primary	—	—	36515 (35732)
" — secondary	—	—	2323 (2856)
Wholesale	—	—	7339 (6576)
Retail	—	—	3 (4)
MAYO HYDRO	5145 (4800)	30394 (34461)	—
Industrial — primary	—	—	15202 (15720)
" — secondary	—	—	12853 (15387)
Wholesale	—	—	72 (58)
Retail	—	—	495 (436)
WHITEHORSE HYDRO	9000 (6500)	21850 (20353)	—
Wholesale	—	—	5918 (4475)
Primary	—	—	12915 (13577)
Secondary	—	—	11893 (469)
FROBISHER BAY DIESEL	1400 (720)	5286 (3723)	—
Wholesale	—	—	3857 (2722)
Retail	—	—	1114 (877)
FORT SMITH DIESEL	950 (905)	3772 (3136)	3348 (2825)
FORT SIMPSON DIESEL	300 (115)	966 (475)	831 (440)
INUVIK THERMAL			
Power	1180 (780)	5075 (2945)	3795 (1533)
Utility Consumption	—	—	1095 (1040)
Heat	38500 lbs. stm. per hr.	—	125×10 ⁹ btu (76×10 ⁹ btu)
FIELD, B.C. DIESEL	130 (110)	546 (189*)	439 (152*)
FORT RESOLUTION DIESEL	65	47*	43*

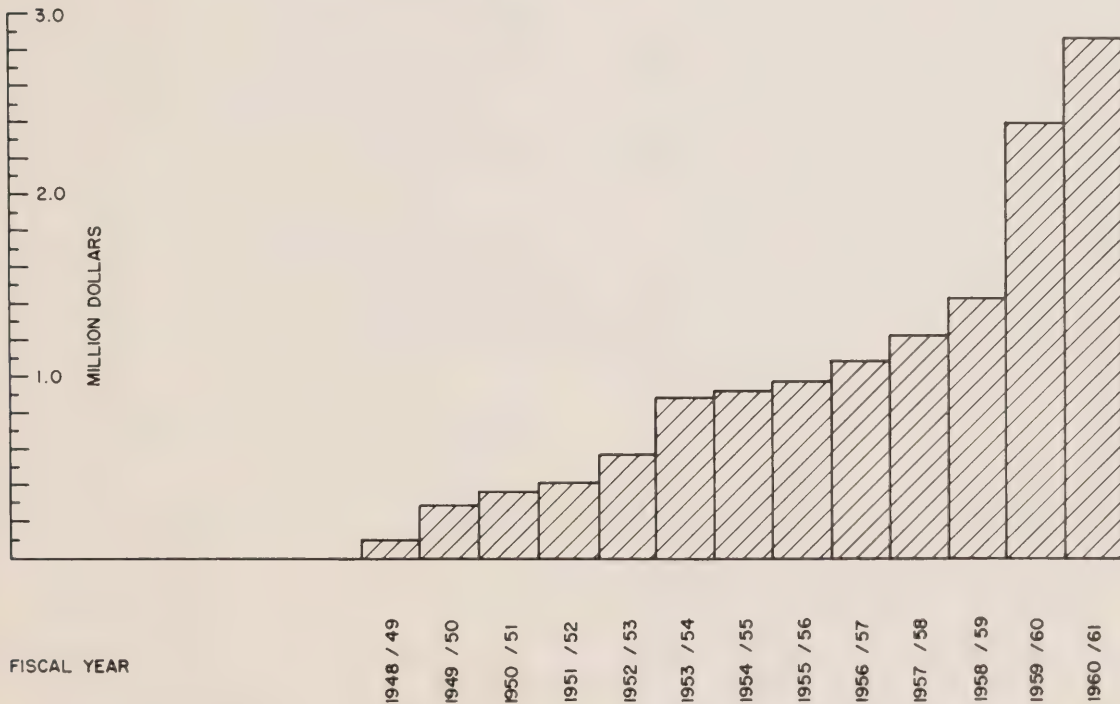
() 1959-1960 figures

* Part Year

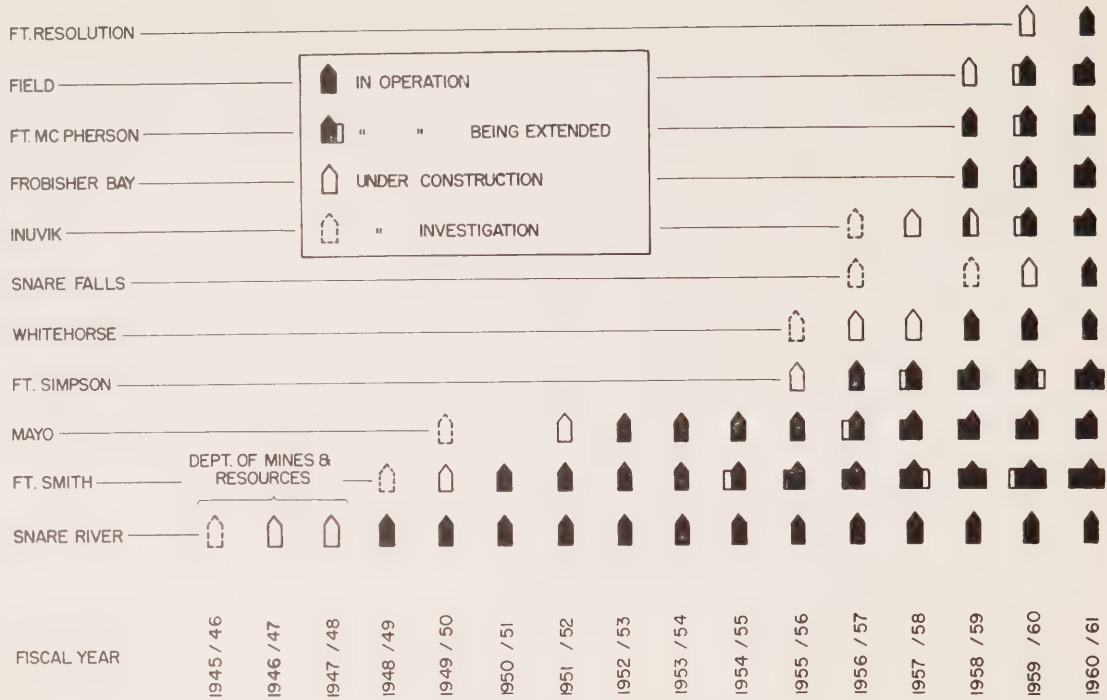
CAPITAL INVESTED



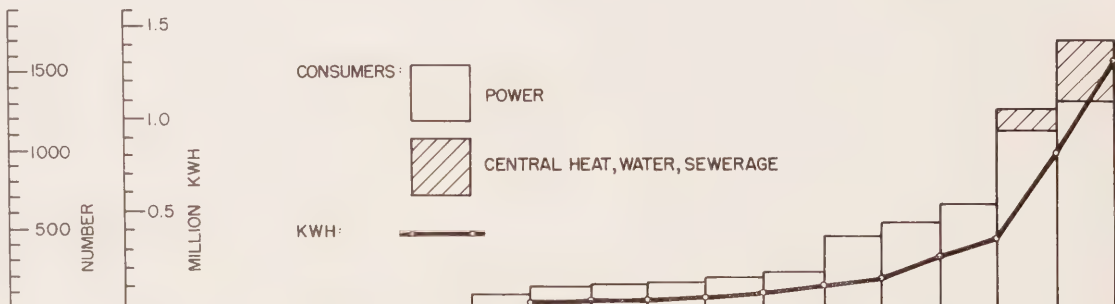
GROSS INCOME



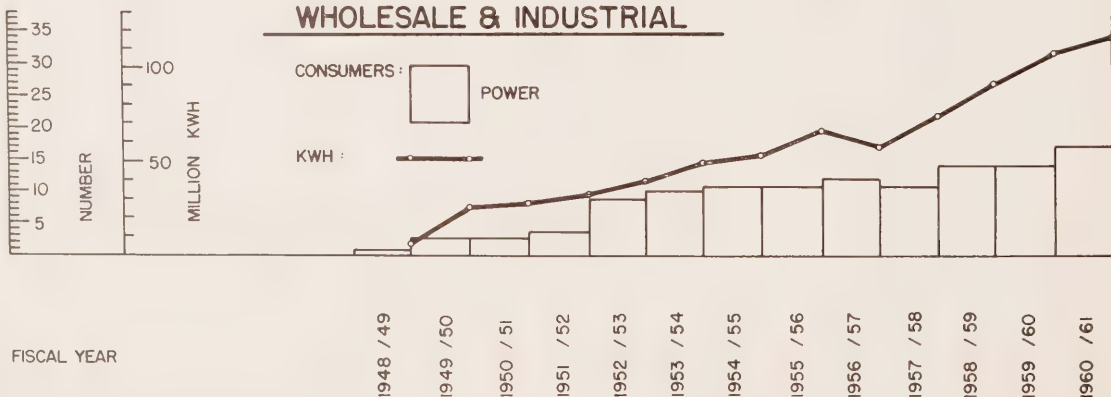
PLANTS



RETAIL



WHOLESALE & INDUSTRIAL



FINANCIAL

Funds are advanced by the Minister of Finance for the construction of individual plants and each plant is operated on a self-sustaining separately accountable basis. Funds advanced for capital purposes are repaid by amortization and profits or losses are not regarded as transferrable between plants. Power rates are established in accordance with Section 10 of the Act and charges shown as depreciation represent repayments of principal at the end of the fiscal year. The financial year has been established as the twelve month period ending March 31.

Snare River Hydro, N.W.T.

The original capital loan for the Snare Rapids Plant is repayable over the twenty year period ending March 31, 1969 with an interest rate of 3-1/8% per annum. The twelfth annual amortization payment totalling \$325,513.13 was made to the Minister of Finance as of March 31, 1961, of which \$246,770.29 was principal and \$78,742.84 was interest.

It is intended that the new Snare Falls Plant will be declared completed as of March 31, 1961 and its cost, along with the outstanding principal on the Snare Rapids Plant will be amortized over the thirty year period commencing April 1, 1961 with interest at 4-1/2% per annum.

Revenues increased approximately 4% over the previous year and exceeded operating and maintenance costs by \$192,645.07. At year-end the Accumulated Surplus was \$312,086.75 after allocating \$150,000.00 to the Contingency Reserve Fund to raise that account to \$450,000.00.

Fort Smith, N.W.T.

Capital loans for the Fort Smith Plant are as follows:

- (1) \$138,253.84 repayable over the twenty year period ending March 31, 1971 with an interest rate of 3-1/8% per annum.
- (2) \$3,000.00 repayable over the eighteen year period ending March 31, 1971 with an interest rate of 3-3/4% per annum.
- (3) \$98,448.33 repayable over the thirteen year period ending March 31, 1971 with an interest rate of 4-1/8% per annum.
- (4) \$176,102.74 repayable over the thirty year period ending March 31, 1991 with an interest rate of 5% per annum.

Amortization payments totalling \$19,803.48 were made to the Minister of Finance as of

March 31, 1961 of which \$13,392.46 was principal and \$6,411.02 was interest.

Total revenues for the year were approximately 22% higher than for the previous year and exceeded operating costs by \$15,573.38. An allocation of \$5,000.00 was made from accumulated surplus to the Contingency Reserve Fund to increase that account to \$45,000.00. At year-end, the Accumulated Surplus stood at \$20,591.04; it is intended that \$19,265.89 of this amount will be used to cover capital expenditures incurred during 1960-61 under the provisions of Section 22 of the Act.

Mayo River Hydro, Y.T.

The original capital loan of \$4,306,217.97 for the Mayo Plant is repayable over the twenty year period ending March 31, 1973 with an interest rate of 3-1/8% per annum. A second capital loan which provided for No. 2 Generating Unit totalled \$457,652.22 and is repayable over the fifteen year period ending March 31, 1973 with an interest rate of 3-5/8% per annum. Amortization payments totalling \$332,890.64 were made to the Minister of Finance as of March 31, 1961 of which \$221,498.58 was principal and \$111,392.06 was interest.

Total revenues for the year were slightly less than for the previous year but exceeded operating costs by \$68,186.52, resulting in an Accumulated Surplus balance of \$142,862.42 at year-end.

Fort Simpson, N.W.T.

The original capital loan of \$110,120.17 for the Fort Simpson Plant is repayable over the twenty year period ending March 31, 1977 and the second loan of \$40,000.00 is repayable over an eighteen year period terminating on the same date; the interest rate on both loans being 3-5/8% per annum. Amortization payments totalling \$10,900.25 were made to the Minister of Finance as of March 31, 1961 of which \$5,950.30 was principal and \$4,949.95 was interest. A further capital loan of \$48,000.00 has been provided for and will be drawn during 1961-62 to cover capital expansion completed during 1960-61.

Total revenues for the year were approximately 88% higher than for the previous year and exceeded operating costs by \$19,850.57. After the initial allocation of \$15,000.00 to the Contingency Reserve Fund the Accumulated Surplus stood at \$4,715.62 at year-end.

Whitehorse Rapids Hydro, Y.T.

The \$7,200,000.00 capital loan covering the Whitehorse Plant is repayable over the forty

year period ending March 31, 1999 with interest at the rate of 4% per annum and the second amortized payment totalling \$363,769.13 was made to the Minister of Finance as of March 31, 1961 of which \$78,799.90 was principal and \$284,969.23 was interest.

Total revenues for the year were approximately 17% higher than for the previous year and the Contingency Reserve Fund was increased from \$75,000.00 to \$150,000.00, leaving an Accumulated Surplus of \$23,869.00 at year-end.

Inuvik, N.W.T.

Capital advances for construction to March 31, 1961 total \$8,000,000.00. Order-in-Council P.C. 1957-1020 dated July 31, 1957 provides that the cost of the electric power generating plant and distribution system will be amortized over a period of thirty years with interest at 4-3/8% per annum, and the balance of the cost of the project is to be reimbursed to the Department of Finance with funds to be appropriated by Parliament for that purpose as an expense associated with development of the townsite of Inuvik. It is intended that this project will be declared completed as of March 31, 1961 and the first amortized debt retirement payment will therefore fall due March 31, 1962.

Total revenues for the year were approximately 81% greater than for the previous part-year, and exceeded operating costs by \$84,070.86 and an initial allocation of \$100,000.00 was made to the Contingency Reserve Fund which left an accumulated surplus of \$18,281.73 at year-end.

Frobisher Bay, N.W.T.

The Commission leases a portion of the Frobisher Plant as it now stands from the Department of Transport at a rental rate of \$23,500.00 per annum. A capital loan was authorized to provide for additional generating equipment and extensions to the distribution system completed during 1960-61. The resulting debt of \$569,061.64 is repayable over the thirty year period ending March 31, 1991 with interest at 5-3/4% per annum.

Total revenues for the year were approximately 8% over the previous year and exceeded operating costs by \$86,692.60. An initial allocation of \$150,000.00 was made to the Contingency Reserve Fund leaving an Accumulated Surplus of \$39,611.26 at year-end.

Fort McPherson, N.W.T.

Operations in this settlement, on behalf of the Department of Northern Affairs and National Resources, provided an income of \$17,898.68 which was credited to head office overhead. The total expense incurred in connection with this operation is recoverable from the Department of Northern Affairs and National Resources.

Field, B.C.

The \$200,000.00 capital loan covering the Field Plant is repayable over the thirty year period ending March 31, 1990 with interest at 5% per annum and the first amortized payment totalling \$13,010.29 was made to the Minister of Finance as of March 31, 1961 of which \$3,010.29 was principal and \$10,000.00 was interest.

Total revenues for the year were \$46,781.47 but operating expenses were \$50,114.27 resulting in a deficit of \$3,332.80, for the year. Taking the previous year's surplus into consideration the Accumulated Surplus shows a deficit of \$835.46 at year-end.

Fort Resolution, N.W.T.

The Fort Resolution Project was authorized by P.C. 1960-383 dated March 24, 1960 at an estimated cost of \$125,000.00 and construction totalling \$115,589.73 was completed during 1960-61 with Commission funds. The required capital funds from the Department of Finance will be drawn during 1961-62 when final construction costs are determined and it is intended that the project will be declared completed as of March 31, 1961 so that the first amortized debt retirement payment will fall due March 31, 1962.

The plant was placed in operation in February 1961, resulting in revenues of \$6,694.85 to the end of the year. Operating costs for the same period totalled \$5,928.19 resulting in a surplus of \$766.66 at year-end.

The Atlantic Provinces Power Development Act:

Payments totalling \$2,912,054.95 were made to the New Brunswick Electric Power Commission during the year under the provisions of the Atlantic Provinces Power Development Act, and interest accruals to March 31, 1961 were charged to the projects involved as follows:

	PAYMENTS TO MARCH 31, 1960	PAYMENTS APRIL 1, 1960 TO MARCH 31, 1961	INTEREST ACCRUALS TO MARCH 31, 1961	TOTAL MARCH 31, 1961
Saint John-Fredericton Transmission Line	\$1,033,000.00	\$ 956,000.00	\$ 97,204.95	\$2,142,204.95
Grand Lake-Newcastle Transmission Line	219,868.78	323.67	20,025.31	240,217.76
Newcastle-Bathurst Transmission Line	376,143.53	505,835.26	42,970.24	924,949.03
Moncton-Nova Scotia Border Transmission Line	882,243.74	236,498.37	59,437.52	1,178,179.63
Saint John Terminal Station	352,335.93	494,051.20	32,761.45	879,148.58
Fredericton Terminal Station	626,374.60	719,346.45	43,328.06	1,389,049.11
	3,545,966.58	2,912,054.95	295,727.53	6,753,749.06

Payments totalling \$1,634,920.15 were made to the Nova Scotia Power Commission during the year under the provisions of the Atlantic

Provinces Power Development Act and interest accruals to March 31, 1961 were charged to the projects involved as follows:

	PAYMENTS TO MARCH 31, 1960	PAYMENTS APRIL 1, 1960 TO MARCH 31, 1961	INTEREST ACCRUALS TO MARCH 31, 1961	TOTAL MARCH 31, 1961
Antigonish-West Bay Transmission Line	\$ 450,076.58	\$ 285,592.59	\$ 31,214.08	\$ 766,883.25
Hunter's Mountain-Tarbot Transmission Line	252,009.42	140,045.60	19,297.97	411,352.99
Maccan-N.B. Border Transmission Line	41,082.79	308,795.97	8,109.73	357,988.49
Sissiboo Hydro-Weymouth Falls Transmission Line	22,138.92	5,669.76	1,659.44	29,468.12
Trenton-Antigonish Transmission Line	652,000.00	81,512.52	50,247.24	783,759.76
Trenton-Truro Transmission Line	127,679.93	Nil	9,419.01	137,098.94
Truro-Maccan Transmission Line	616,444.49	Nil	45,469.75	661,914.24
West Bay-Hunter's Mountain Transmission Line	13,704.60	36,295.40	2,021.34	52,021.34
Interconnection with Nova Scotia Light & Power Co. Ltd. System	82,768.90	Nil	6,377.28	89,146.18
Cowie Falls-Sable River Transmission Line	Nil	148,175.63	20.30	148,195.93
Maccan Terminal Station	137,527.83	112,472.17	11,139.42	261,139.42
Sissiboo Terminal Station	108,536.22	5,575.63	5,464.36	119,576.21
Trenton Terminal Station	272,795.60	16,456.09	18,168.64	307,420.33
Truro (Onslow) Terminal Station	185,878.64	118,689.31	12,579.62	317,147.57
Trenton Thermal Electric Generating Plant	2,489,972.87	375,639.48	183,588.57	3,049,200.92
	5,452,616.79	1,634,920.15	404,776.75	7,492,313.69

Charges were made to the New Brunswick Electric Power Commission and the Nova Scotia Power Commission for \$2,269.59 and \$1,255.36 respectively to cover engineering and administration costs, both of which were credited to head office overhead.

FINANCIAL STATEMENTS

Included in this report is the Consolidated Balance Sheet of the Commission as at March 31, 1961 certified by the Auditor General of Canada, which reflects the finan-

cial position of the Commission's various plants and projects.

Also included are the Commission's supplementary detailed statements as follows:

- (1) Assets and Liabilities, by Plants and Projects, as at March 31, 1961.
- (2) Income and Expense, by Plants, as at March 31, 1961.
- (3) Earned Surplus, by Plants, for the year ended March 31, 1961.

Ottawa, June 28, 1961.

The Honourable Walter Dinsdale,
Minister of Northern Affairs and National Resources,
Ottawa.

Sir,

The accounts and financial statements of Northern Canada Power Commission have been examined for the year ended March 31, 1961. In compliance with the requirements of section 87 of the Financial Administration Act, I now report that, in my opinion:

- (a) proper books of account have been kept by the Commission;
- (b) the financial statements of the Commission
 - (i) were prepared on a basis consistent with that of the preceding year and are in agreement with the books of account,
 - (ii) in the case of the balance sheet, give a true and fair view of the state of the Commission's affairs as at the end of the financial year, and
 - (iii) in the case of the statement of income and expense, give a true and fair view of the income and expense of the Commission for the financial year; and
- (c) the transactions of the Commission that have come under my notice have been within the powers of the Commission under the Financial Administration Act and any other Act applicable to the Commission.

Yours faithfully,

A. M. Henderson,
Auditor General of Canada.

NORTHERN CANA

(Established by the North

Balance Sheet

(with comparative figu

Assets		1961	1960
Current Assets:			
Cash		\$ 396,871	\$ 2,891,568
Accounts receivable		1,517,099	1,064,312
Inventories of maintenance and operating supplies and spare parts, at cost		399,986	331,360
Investment in Government of Canada Bonds, at cost, including accrued interest (market value, \$505,250)		498,750	498,750
Prepaid and deferred expenses		15,548	11,667
Total Current Assets		2,828,254	4,797,657
Bonds held as Contractors' and Consumers' Security Deposits		190,000	256,449
Advances pursuant to agreements entered into under the Atlantic Provinces Power Development Act, including accrued interest of \$700,504:			
Nova Scotia Power Commission	\$ 7,492,314		5,554,764
New Brunswick Electric Power Commission	6,753,749		3,646,105
		14,246,063	9,200,869
Capital Assets, at cost:			
Power plants	13,952,666		13,512,884
Transmission and distribution facilities	2,454,056		2,420,681
Staff dwellings, warehouses and miscellaneous buildings	875,657		741,970
Communication, transportation and other equipment	524,398		469,080
Projects under construction	12,625,831		10,119,568
	30,432,608		27,264,183
Less: Accumulated provisions for depreciation (equivalent to repayments of principal of advances from the Government of Canada)	4,082,350		3,515,106
		26,350,258	23,749,077
		43,614,575	38,004,052

Certified correct:

(Sgd.) T. A. Stott
Secretary-Comptroller

Approved:

(Sgd.) R. G. Robertson
Chairman

WER COMMISSION

ada Power Commission Act)

March 31, 1961

at March 31, 1960)

Liabilities

Current Liabilities:	1961	1960
Accounts payable	\$ 231,932	\$ 721,057
Due to Government of Canada	—	422,878
Contractors' holdbacks	111,109	8,527
Total Current Liabilities	343,041	1,152,462
Security Deposits:		
Consumers	\$ 82,320	81,295
Construction contractors	125,501	175,154
	207,821	256,449
Advances from the Government of Canada pursuant to agreements entered into under the Atlantic Provinces Power Development Act, including accrued interest	14,246,063	9,200,869
Advances from the Government of Canada:		
Under section 14 of the Act — for investigation of projects	50,000	50,000
Under section 15 of the Act — for capital expenditures, including accrued interest of \$251,624 on advances for projects under construction	26,683,953	25,807,430
	26,733,953	25,857,430
Reserve for Extension, Expansion and Improvements equivalent to expenditures incurred on acquisition of capital assets, as permitted under section 22 of the Act	211,748	211,748
Reserve for Contingencies pursuant to section 10 of the Act	1,310,000	815,000
Earned Surplus, per Statement of Surplus	561,949	510,094
	43,614,575	38,004,052

The above Balance Sheet and the related Statements of Income and Expense and of Surplus have been examined and reported upon under date of June 28, 1961 to the Minister of Northern Affairs and National Resources, as required by section 87 of the Financial Administration Act.

A. M. Henderson,
Auditor General of Canada.

NORTHERN CANADA POWER COMMISSION

Statement of Income and Expense for the year ended March 31, 1961 (with comparative figures for the year ended March 31, 1960)

	1961	1960
Income		
Sales of power:		
Mining	\$1,011,243	\$1,023,027
Commercial	1,305,383	1,079,145
Domestic	242,493	137,926
	<hr/>	<hr/>
	\$2,559,119	2,240,098
Sales of steam and water heat	321,336	191,305
Miscellaneous	139,764	75,622
	<hr/>	<hr/>
	3,020,219	2,507,025
	<hr/>	<hr/>
Expense		
Operating expenses:		
Salaries and wages	498,070	384,777
Fuel oil	408,049	262,935
Power purchased for resale	47,706	46,552
Employees' accommodation, lighting, heating, etc. (net) ..	44,679	8,503
Travel and removal expenses	38,505	30,279
Generating plant and line rental	25,900	25,900
Consulting and special services	13,889	—
Trucks, tractors, etc.	11,068	7,387
Insurance	11,032	4,615
Charter of aircraft	9,758	11,302
Staff food costs (net)	4,564	28,577
Miscellaneous	24,118	23,171
	<hr/>	<hr/>
	1,137,338	833,998
	<hr/>	<hr/>
Maintenance:		
Structures and improvements	44,983	30,217
Equipment	46,035	42,077
	<hr/>	<hr/>
	91,018	72,294
	<hr/>	<hr/>
Administrative:		
Salaries	150,963	129,157
Office rent	13,340	12,300
Miscellaneous	13,479	14,056
	<hr/>	<hr/>
	177,782	155,513
	<hr/>	<hr/>
Interest on advances from the Government of Canada	497,804	506,538
Provision for depreciation (equivalent to annual repayment of advances from the Government of Canada)	569,422	548,398
	<hr/>	<hr/>
	2,473,364	2,116,741
	<hr/>	<hr/>
Net Income, carried to Surplus Account	546,855	390,284
	<hr/>	<hr/>

NORTHERN CANADA POWER COMMISSION
Statement of Surplus for the year ended March 31, 1961

Balance as at April 1, 1960	\$ 510,094
<i>Add:</i>	
Net income for the year, per Statement of Income and Expense	546,855
	<u>1,056,949</u>
<i>Deduct:</i>	
Transfer to Reserve for Contingencies	495,000
	<u>561,949</u>
Balance as at March 31, 1961	<u>561,949</u>

ASSETS

N.B. Electric Power Commission	.....
Nova Scotia Power Commission	.....
Capital Assets, at cost:	
Power Plants	.....
Transmission and Distribution Facilities	.....
Staff Dwellings, Warehouses and Miscellaneous Buildings	.....
Communication, Transportation and other Equipment	.....
Projects Under Construction	.....

SNARE RIVER PLANTS	FORT SMITH PLANT	MAYO PLANT	FORT SIMPSON PLANT	WHITE- HORSE PLANT	INUUVIK PLANT	FROBISHER		FIELD PLANT	FORT RESOLUTION PLANT	REGIONAL AND HEAD OFFICES	TOTAL
						BAY PLANT					
\$ 460,541	\$(19,266)	\$ 77,951	\$(43,178)	\$ 69,383	\$ 54,032	\$161,070	\$(12,711)	\$(132,946)	\$ 12,552	\$ 627,428	
403,774	(85,660)	228,760	(188,248)	40,873	(484,303)	121,088	(12,665)	(15,470)	(238,706)	(230,557)	
186,836	79,600	52,155	200,293	110,763	515,556	66,837	31,209	17,744	256,106	1,517,099	
35,147	69,364	18,891	20,981	13,899	185,340	29,340	4,055	20,065	2,904	399,986	
375	398	287	267	568	683	6,710	846	69	—	10,203	
—	—	—	—	—	—	—	—	—	5,345	5,345	
183,590	24,489	244,786	—	45,885	—	—	—	—	—	498,750	
165,000	—	25,000	—	—	—	—	—	—	—	190,000	
—	—	—	—	—	—	—	—	—	6,753,749	6,753,749	
—	—	—	—	—	—	—	—	—	7,492,314	7,492,314	
2,598,858	362,440	3,746,083	146,438	6,741,344	—	241,666	115,837	—	—	13,952,666	
1,425,799	133,097	568,800	32,446	251,277	—	15,984	26,713	—	—	2,454,056	
310,530	29,516	259,373	18,980	77,643	—	133,777	45,838	—	—	875,657	
285,568	14,591	111,663	10,891	23,318	—	35,052	9,132	—	34,183	524,398	
4,636,812	—	—	—	—	7,873,430	—	—	115,589	—	12,625,831	
(2,342,000)	(77,198)	(1,486,391)	(19,520)	(154,569)	—	—	(2,672)	—	—	(4,082,350)	
3,350,770	531,371	3,847,358	179,350	7,220,384	8,144,738	811,524	205,582	5,051	14,318,447	43,614,575	

NORTHERN CANADA POWER COMMISSION Assets and Liabilities, by Plants and Projects, as at March 31, 1961

LIABILITIES	SNARE RIVER PLANTS	FORT SMITH PLANT	MAYO PLANT	FORT SIMPSON PLANT	WHITE- HORSE PLANT	INUVIK PLANT	FROBISHER BAY PLANT	FIELD PLANT	FORT RESOLUTION PLANT	REGIONAL AND HEAD OFFICES	TOTAL
Accounts Payable	\$ 83,794	\$ 15,890	\$ 1,312	\$ 22,865	\$ 1,084	\$ 24,911	\$ 52,851	\$ 2,557	\$ 4,284	\$ 22,384	\$ 231,932
Contractor's Holdbacks	111,109	—	—	—	—	—	—	—	—	—	111,109
Security Deposits	50,000	3,745	25,705	755	—	1,545	—	570	—	—	82,320
Consumers	—	—	—	—	—	—	—	—	—	—	—
Construction Contractors	119,199	—	—	—	—	—	—	6,302	—	—	125,501
Advances from the Government of Canada, pursuant to Agreements entered into under the Atlantic Provinces Power Development Act, including accrued interest of \$700,504	—	—	—	—	—	—	—	—	—	14,246,063	14,246,063
Advances from the Government of Canada:	—	—	—	—	—	—	—	—	—	50,000	50,000
Section 14 of the Act	—	—	—	—	—	—	—	—	—	—	—
Section 15 of the Act, including accrued interest of \$251,624 on advances for projects under construction	7,124,625	339,767	3,277,479	130,600	7,045,431	8,000,000	569,062	196,989	—	—	26,683,953
Reserve for Extension, Expansion, and Improvements equivalent to expenditures incurred for acquisition of capital assets as permitted under section 22 of the Act	99,956	106,378	—	5,414	—	—	—	—	—	—	211,748
Reserve for Contingencies	450,000	45,000	400,000	15,000	150,000	100,000	150,000	—	—	—	1,310,000
Earned Surplus, per Statement of Surplus	312,087	20,591	142,862	4,716	23,869	18,282	39,611	(836)	767	—	561,949
	8,350,770	531,371	3,847,358	179,350	7,220,384	8,144,738	811,524	205,582	5,051	14,318,447	43,614,575

NORTHERN CANADA POWER COMMISSION Statement of Income and Expense for the year ended March 31, 1961

	SNARE RIVER PLANTS	FORT SMITH PLANT	MAYO PLANT	FORT SIMPSON PLANT	WHITE- HORSE PLANT	INUUVIK PLANT	FROBISHER BAY PLANT	FIELD PLANT	FORT RESOLUTION PLANT	REGIONAL AND HEAD OFFICES	TOTAL
Income											
Sales of Power:											
Mining	\$566,533	\$ —	\$444,710	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —	\$1,011,243
Commercial	126,847	100,057	29,357	73,236	520,853	134,071	283,670	31,413	5,879	—	1,305,383
Domestic	—	94,196	10,648	19,124	—	57,086	47,984	13,048	407	—	242,493
Sales of Steam and Water Heating	—	—	—	—	—	321,336	—	—	—	—	321,336
Miscellaneous	23,429	6,331	12,151	5,254	7,205	38,440	6,975	2,321	409	37,249	139,764
	716,809	200,584	496,866	97,614	528,058	550,933	338,629	46,782	6,695	37,249	3,020,219
Expense											
Operating Expenses:											
Salaries and Wages	76,731	57,151	41,576	27,974	51,420	149,118	71,872	18,622	3,606	—	498,070
Fuel Oil	1,852	71,614	—	13,048	—	213,379	99,078	8,145	933	—	408,049
Power Purchased for Resale	47,339	—	—	—	—	—	—	367	—	—	47,706
Employees' Accommodation, Lighting, Heating, etc. (net)	142	4,293	—	1,375	3,059	18,262	16,039	1,509	—	—	44,679
Plant and Line Rentals	2,400	—	—	—	—	—	23,500	—	—	—	25,900
Consulting and Special Services	915	—	—	—	321	12,653	—	—	—	—	13,889
Travelling Expenses	3,971	1,872	1,999	4,911	2,882	14,264	6,391	1,442	773	—	38,505
Board and Lodging (net)	2,799	—	—	—	—	—	1,765	—	—	—	4,564
Charter of Aircraft	9,758	—	—	—	—	—	—	—	—	—	9,758
Trucks, Tractors, etc.	2,149	1,394	1,863	543	379	3,907	456	331	46	—	11,068
Insurance	836	1,282	1,572	712	1,019	1,200	3,827	566	18	—	11,032
Miscellaneous	4,672	3,137	2,657	1,463	2,549	5,584	2,985	1,040	31	—	24,118
Maintenance Expenses:											
Structures and Improvements	6,063	2,169	26,501	1,457	1,051	1,109	6,392	241	—	—	44,983
Equipment	11,451	9,896	2,155	3,550	1,371	13,389	1,959	2,245	19	—	46,035
Administration:											
Salaries	—	—	—	—	—	—	—	—	—	150,963	150,963
Office Rent	—	—	—	—	—	—	—	—	—	13,340	13,340
Miscellaneous	—	—	—	—	—	—	—	—	—	13,479	13,479
Head Office Assessment	27,573	12,399	17,466	11,830	16,567	33,997	17,672	2,527	502	(140,533)	—
Interest on advances from the Government of Canada	78,743	6,411	111,392	4,950	286,238	—	—	10,070	—	—	497,804
Provision for Depreciation (Equal to annual repayment of principal on advances from the Government of Canada)	246,770	13,393	221,499	5,950	78,800	—	—	3,010	—	—	569,422
	524,164	185,011	428,680	77,763	445,656	466,862	251,936	50,115	5,928	37,249	2,473,364
Net Income, carried to Earned Surplus	192,645	15,573	68,186	19,851	82,402	84,071	86,693	(3,333)	767	—	546,855

NORTHERN CANADA POWER COMMISSION
Earned Surplus, by Plants, for the year ended March 31, 1961

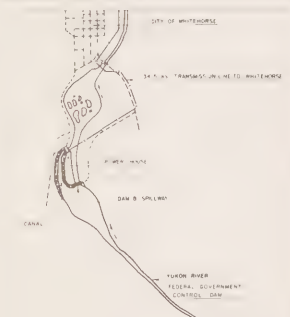
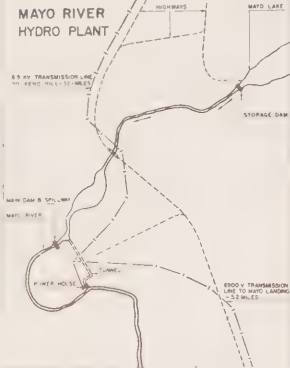
	SNARE RIVER PLANTS	FORT SMITH PLANT	MAYO PLANT	FORT SIMPSON PLANT	WHITE- HORSE PLANT	INUUVIK PLANT	FROBISHER BAY PLANT	FIELD PLANT	FORT RESOLUTION PLANT	TOTAL
Balance at beginning of year	\$269,441	\$10,018	\$ 74,676	\$ (135)	\$16,467	\$ 34,211	\$102,919	\$2,497	\$ —	\$ 510,094
Add:										
Net income for year	192,645	15,573	68,186	19,851	82,402	84,071	86,693	(3,333)	767	546,855
	462,086	25,591	142,862	19,716	98,869	118,282	189,612	(836)	767	1,056,949
Deduct:										
Transfers to reserve for contingencies	150,000	5,000	—	15,000	75,000	100,000	150,000	—	—	495,000
Balance at end of year	312,086	20,591	142,862	4,716	23,869	18,282	39,612	(836)	767	561,949

27 —

INUVIK UTILITY PLANT
1 STEAM TURBINE - 600 KW
4 DIESEL UNITS - 1900 KW
TOTAL CAPACITY - 2500 KW
3-30,000 LB PER HR BOILERS

FORT McPHERSON DIESEL PLANT
2 UNITS - 225 KW TOTAL

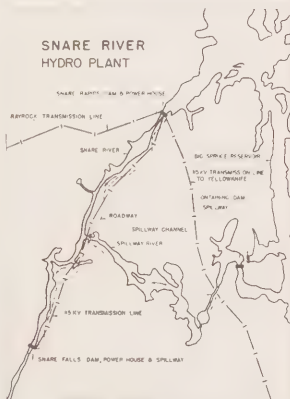
MAYO RIVER
HYDRO PLANT



WHITEHORSE RAPIDS
HYDRO PLANT

FORT SIMPSON DIESEL PLANT
4 UNITS - 550 KW TOTAL

SNARE RIVER
HYDRO PLANT



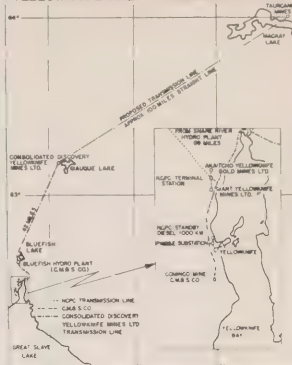
FORT RESOLUTION DIESEL PLANT
3 UNITS - 325 KW TOTAL

FORT SMITH DIESEL PLANT
3 UNITS - 1875 KW TOTAL

FIELD DIESEL PLANT
3 UNITS - 400 KW TOTAL



YELLOWKNIFE AREA TRANSMISSION LINES



YELLOWKNIFE STANDBY DIESEL PLANT
1 UNIT - 1000 KW

FROBISHER BAY DIESEL PLANT
6 UNITS - 3100 KW TOTAL



Portion of the interior of the Inuvik Power House

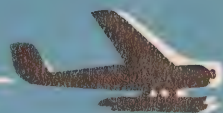


Two General Views of the Inuvik Townsite as it appeared in July 1960



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NORTHERN CANADA POWER COMMISSION



FOURTEENTH
**ANNUAL
REPORT**
1961 - 1962





Powerhouse — Whitehorse Rapids Hydro-Electric Plant



Spillway — Whitehorse Rapids Hydro-Electric Plant



ANNUAL REPORT

of the

Northern Canada Power Commission

for the Fiscal Year ended March 31, 1962

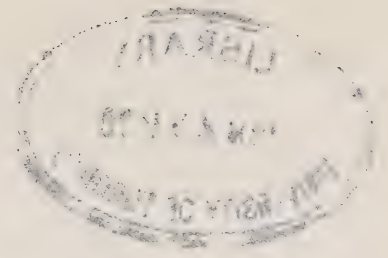
OTTAWA, CANADA



Northern Canada Power Commission

1961 - 1962

R. G. Robertson	Chairman
T. M. Patterson	Member
J. F. Parkinson	Member
E. W. Humphrys	General Manager - Chief Engineer
T. A. Stott	Secretary-Comptroller



Northern Canada Power Commission

June 29, 1962.

The Honourable Walter Dinsdale, M.P.,
Minister of Northern Affairs and National Resources,
Ottawa, Ontario.

Dear Sir,

I beg to submit herewith the report of the Northern Canada Power Commission for the fiscal year ending March 31, 1962, as required under Section 24 of the Northern Canada Power Commission Act, Chapter 42, 4-5, Eliz. II.

Respectfully submitted,

R. G. ROBERTSON,
Chairman.

ANNUAL REPORT of the NORTHERN CANADA POWER COMMISSION for the Fiscal Year ended March 31, 1962 OTTAWA, CANADA

The Northern Canada Power Commission operates under authority of the Northern Canada Power Commission Act (4-5 Eliz. II, Chap. 42). The Commission is empowered to construct and operate public utility plants in the Northwest Territories and Yukon Territory and, subject to approval of the Governor General-in-Council, elsewhere in Canada. It is a requirement of the authorizing Act that projects undertaken by the Commission shall be self-sustaining; consequently rates charged for utilities supplied must provide sufficient revenue to cover interest on investment, repayment of principal over a period of years, operating and maintenance expenses and contingency reserve. The Commission is thus a Federal Government Agency concerned with the construction and management of public utilities on a commercial basis.

Currently the Commission operates four hydro stations and six thermal plants. These are as follows:

- (i) *Snare River Hydro System, N.W.T.* — situated some ninety miles northwest of Yellowknife, N.W.T., supplying the Yellowknife area. This system comprises the 8,350 HP Snare Rapids plant on the Snare River which was commissioned in 1948, and the 9,200 HP Snare Falls plant (located about 8 miles downstream of the Rapids plant) which was placed in service in December, 1960. These two generating stations are connected to a terminal transformer station near Yellowknife by a 115 KV wood pole transmission line. Interconnection with the Consolidated Mining and Smelting Company Limited's Bluefish Hydro Plant is provided by a short 34.5 KV transmission line extending from the terminal station to a nearby point on the Bluefish-Yellowknife transmission line. The system includes a 1,000 KW diesel standby plant located in Yellowknife.
- (ii) *Mayo River Hydro Plant, Y.T.* — commissioned in November 1952 as a 3,000 HP plant and increased to

6,000 HP by addition of a second unit in 1957. This plant is located about 5 miles north of Mayo, Y.T. and supplies power over approximately 32 miles of 69,000 volt line to mining properties in the vicinity of Elsa and Keno and a privately owned distribution system serving the community of Keno City. A 6,900 volt transmission line extends from the generating plant to supply a Commission-owned distribution system serving the Mayo community.

- (iii) *Whitehorse Rapids Hydro Plant, Y.T.* — a two unit 15,000 HP development located on the Yukon River about two miles upstream from Whitehorse, commissioned in 1958. This plant supplies the Department of National Defence installations in the Whitehorse area and, by supplementing the Yukon Electric Company's own hydro generation, a substantial portion of the requirements of the City of Whitehorse; in addition, power that is currently surplus is supplied for heating purposes (through the medium of electric boilers) directly to the Department of National Health and Welfare hospital and two hostels operated by the Indian Affairs Branch of the Department of Citizenship and Immigration.
- (iv) *Fort Smith Diesel Plant, N.W.T.* — established in 1950 as a 350 KW plant and enlarged in 1955, 1958 and 1960; this plant currently has an installed capacity of 1,875 KW. The associated distribution system serves the Fort Smith townsite and airport areas.
- (v) *Fort Simpson Diesel Plant, N.W.T.* — established in 1956 with a capacity of 225 KW and enlarged in 1958 and 1960 to the present installed capacity of 550 KW. This plant supplies the Fort Simpson community and the Fort Simpson airport situated some 12 miles south of the community. The central heating system serving the federal

school, hostels, and associated residences, and the water and sewerage systems serving the community are operated by the Commission on behalf of the Department of Northern Affairs and National Resources.

- (vi) *Inuvik Utilities Plant, N.W.T.* — This plant comprises a 2,500 KW generating station combined with a central heating plant having a capacity of 90,000 lbs. steam per hour, a water pumping and treatment plant, and an above ground system of utilidors distributing central heat and water and sewerage services to the central portion of the townsite; an associated electrical distribution system serves the community and the airport located approximately 8 miles west of the town centre. Supply of power commenced in October 1958 and the central heating, water and sewerage systems were commissioned in 1959.
- (vii) *Frobisher Bay Diesel Plant, N.W.T.* — A 3,100 KW diesel plant with associated distribution system supplying the Frobisher Bay Airport and adjacent area, and the nearby Apex Hill settlement.
- (viii) *Field Diesel Plant, B.C.* — A 400 KW diesel plant with associated distribution system commissioned in 1959, supplying the general area of Field, B.C., the administrative centre for the Yoho National Park.
- (ix) *Fort Resolution Diesel Plant, N.W.T.* — This plant with a total installed capacity of 325 KW was placed in service in February 1961 and serves the settlement of Fort Resolution.
- (x) *Fort McPherson, N.W.T.* — This operation comprises a 225 KW diesel generating plant supplying the school and hostel and a small number of government and private premises in the settlement, together with the heating plant, water supply and sewage disposal facilities for the hostel. These facilities are owned by the Department of Northern Affairs and National Resources and are operated by the Commission on behalf of the Department.

ORGANIZATION AND PERSONNEL

There were no significant changes in Commission organization during the year and full time employees at year-end totalled 170 of which 30 were at Head Office, Ottawa, 6 were at the Regional Office, Edmonton, and 134 were operating the various plants. In addition

there were several temporary employees engaged on non-continuous maintenance work at the plants.

OPERATIONS

A tabulation of statistical data pertaining to the production of power at the various plants appears on page 10 of this report, and a map showing the location of each operation is included following the financial statements.

SNARE RIVER HYDRO SYSTEM, N.W.T.

Consumption of primary power increased by 6.4% over the previous year. The additional generating capacity provided by the Snare Falls development eliminated the purchase of power except during maintenance shutdowns, and permitted a substantial increase in the sale of secondary power for heating purposes. Arrangements completed during the year are expected to lead to a further increase in secondary power consumption thereby creating a significant amount of new revenue for this operation.

A number of minor mechanical and electrical troubles were encountered with the new Snare Falls plant necessitating several short shutdowns, but there were no serious operating problems.

Because of the addition of the Snare Falls plant to operating account, wages and general operating expense were approximately 13% or \$20,000 higher than for the previous year.

Living quarters for the maintenance staff, which had consisted of a converted temporary bunkhouse dating from the Snare Rapids construction camp of 1947-1948, were reconstructed as a maintenance project utilizing materials salvaged from the Snare Falls construction camp. One surplus house trailer that had been acquired for the Snare Falls project was sold. Plans for reconstruction of the utilidor line serving residential and office premises at the Snare Rapids plant were developed and materials delivered to the plant site over the winter road.

Final cost of the Snare Falls development and associated improvements to the original Snare Rapids and Yellowknife Terminal installation, which were described in last year's report, was determined to be \$4,558,812 which compares favourably with the original estimate of \$5,200,000.

MAYO RIVER HYDRO PLANT, Y.T.

Because of a slight reduction in consumption of secondary power, total output for the year was marginally less than that of the previous year.

Consumption by the community of Mayo, which accounts for only two percent of the total, showed an increase of 18% over the previous year. The increase in consumption permitted a modest rate reduction, hence revenue from retail sales declined approximately 15%. Total operating costs were down approximately 12% due chiefly to the absence of major maintenance expense.

Plans to renovate the Mayo Lake storage dam sluiceway structure had to be deferred until the spring of 1962 because of the unexpected early spring breakup which made it impractical to carry out this work at reasonable cost. Preliminary arrangements to do this work in April and May 1962 were in hand at the close of the year.

WHITEHORSE RAPIDS HYDRO PLANT, Y.T.

There was a marked increase in output arising from a 12% increase in primary power and an 18% increase in secondary or heating power consumption, accompanied by a 4% increase in peak demand.

While no serious operating problems were experienced an abnormal vibration developed in one generating unit and is being investigated.

FORT SMITH DIESEL PLANT, N.W.T.

The continuing growth of this community was reflected by an increase in the number of services from 479 to 583. Power consumption was 16% higher and peak demand increased by nearly 30% to 1,230 KW, as compared with the previous year.

The increased demand and a saving in fuel costs consequent on the use of heavier fuel permitted a reduction in the volume rate of $\frac{1}{2}\text{¢}/\text{KWHr}$ which became effective July 1, 1961.

The substantial increase in peak demand pointed up the need for additional generating equipment to ensure adequate standby capacity. In considering how this need could best be provided it was deemed advisable to recognize the contingency that the administrative headquarters of the Northwest Territories may be moved from Fort Smith and the possibility of a source of hydro power being developed within economical transmission distance of Fort Smith, both of which are currently under study. Accordingly it was decided to purchase, at a favourable price, a 450 KW slow speed diesel unit from Eldorado Mining and Refining Limited which had become surplus at Eldorado, Saskatchewan. This unit will firm up the existing standby capacity and permit deferring the installation of more costly firm capacity until future requirements are more clearly established.

Because of the increased power output, additional fuel storage capacity has become mandatory and a 3,000 barrel storage tank is to be installed during the coming summer.

Several extensions were added to the distribution system and portions were rebuilt to supply new premises or increased loading.

FORT SIMPSON DIESEL PLANT, N.W.T.

Reflecting the first full year of operation of the new school and hostel establishments, and commencement of supply to the airport, power output increased by 50%, and peak demand increased by one-third to 400 KW. There was a small increase in the number of services to 141.

A rate reduction of $2\text{¢}/\text{KWHr}$ applying to all commercial consumption and the first block of the domestic rate was put into effect as of April 15.

It is anticipated that the demand for power will continue to increase though at a more moderate rate, consequently it was decided to install a 600 KW generating unit during the coming year. This unit will increase the installed capacity of the plant to 1,150 KW and will improve the firm capacity from the existing 250 KW to 550 KW. In addition, fuel storage capacity will be increased by installation of a second 3,000 barrel tank. By year end the new unit had been ordered, plans for the powerhouse extension to accommodate the new equipment were in preparation and an initial supply of construction materials had been shipped to Fort Simpson over the winter truck road.

The transmission line serving the airport was completed early in the year. This project was carried out by Commission forces on behalf of the Department of Transport.

The Commission continued to operate the water and sewerage systems and the central heating plant supplying the school, hostels and associated dwellings, on behalf of the Department of Northern Affairs and National Resources; this program also includes maintenance of various mechanical and electrical features of these premises. An extensive extension to the water and sewerage system to serve new federal government owned residences and a small subdivision of new building lots was undertaken by Commission forces and was substantially completed before work had to be closed down due to cold weather.

Maintenance of the telephone system installed in the community during the year by Canadian National Telecommunications has been undertaken.

INUUVIK UTILITIES PLANT, N.W.T.

Power service connections increased from 349 to 420, consumption of power increased by 27% and peak demand increased 18% to 1,390 KW.

Heating service connections increased from 151 to 172 and heat output increased by 3% while peak demand was up approximately 10% to 42,000 lbs. of steam per hour.

Water system connections increased from 149 to 163 and water consumption increased by 16%.

Two service connection (utilidettes) to the utilidor system were constructed and connections were completed to serve a number of new federal government housing units. A number of extensions and modifications to the power distribution system were constructed to serve new premises.

Cost of the power portion of the utility was determined to be \$1,023,174 and annual capital charges in respect to same totalling \$61,894 were charged to operating account. This, together with higher fuel and maintenance expense, resulted in a 42% increase in operating costs whereas revenue from utility services increased approximately 25%.

Operating experience revealed that abnormally low temperatures were occurring in certain portions of the utilidor system during winter months. An investigation was undertaken to determine the cause and remedial action was taken. Other major maintenance work included repairs to fuel tank heaters, a boiler feed pump casing and one diesel engine foundation. Failure of water tubes in certain heat exchangers revealed the presence of a corrosion problem and steps were taken to treat the main water supply to minimize this particular problem.

Maintenance of the electrical and mechanical installations in the majority of the government-owned premises, on behalf of the Departments concerned, and operation of the telephone system on behalf of Canadian National Telecommunications were continued. While this work constitutes a major activity it is a satisfactory arrangement in that it effects an economy in provision of supervisory and technical staff.

A warehouse for general stores was constructed utilizing material salvaged from the original construction camp buildings and temporary facilities for active stores was arranged by relocating and renovating several smaller construction camp buildings, pending completion of a permanent structure to provide office and storeroom facilities.

FORT McPHERSON, N.W.T.

Operation of the diesel power plant supplying all government premises and a small number of private consumers in this settlement, and the heating plant and water supply and sewage disposal facilities serving the hostel, and maintenance of mechanical and electrical equipment was continued. In addition, Commission staff based at Fort McPherson and Regional office personnel undertook installation and operating supervision of a small diesel generating set at Old Crow, Y.T. on behalf of the same department. These services are provided on the basis of direct cost plus a percentage of labour expense in respect to general overhead.

FROBISHER BAY DIESEL PLANT, N.W.T.

Due chiefly to the impact of the U.S.A.F. air base load which had been connected late in the previous year, power sales increased by approximately 56% whereas peak demand increased less than 5% to 1,460 KW. Total number of service connections increased from 99 to 120. The introduction of charges in respect to capital investment in generating and general plant plus increased fuel and wage expense led to a 48% increase in operating costs. Revenue was modified by a rate reduction of 1¢ per kilowatt hour and increased by 39%.

Following government approval to proceed with construction of a new townsite, design of a new central heating and power generating station to supply the new townsite, and electricity only to the existing areas, was put in hand. Construction of the new plant is scheduled to commence in August 1962 for completion in late 1963.

FORT RESOLUTION DIESEL PLANT, N.W.T.

Installation of the 150 KW generating unit was completed early in the year thereby completing construction of the plant. At year end there were 35 service connections. This was the first full operating year for this plant. While load was somewhat short of expectations a small surplus was recorded. A central fuel storage and pipe line system to distribute heating oil to several government-owned premises was constructed by Commission forces and will be operated by the plant operating staff on behalf of the Department of Northern Affairs and National Resources.

FIELD DIESEL PLANT, B.C.

Output and gross revenue increased approximately 25% but operating costs were virtually unchanged from the previous year which had experienced abnormal maintenance expense. Service connections increased from 119 to 125.

INVESTIGATIONS

GLACIER NATIONAL PARK, B.C.

Further engineering investigation, including an inspection of possible hydro sites in the vicinity of Glacier townsite, revealed that there are no practical sites within economical transmission distance of the load centre. The most attractive site had to be ruled out because of avalanche hazard, which was pointed up by the findings during the field inspection that an avalanche had occurred in the area of one of the sites during the winter of 1960-1961 subsequent to the initial investigation mentioned in last year's report.

Cosequently this investigation has been abandoned and costs amounting to \$1,312.78 will be charged to the Investigation Fund pending reimbursement by Parliamentary vote in accordance with Section 14 of the Northern Canada Power Commission Act.

DAWSON CITY UTILITIES, Y.T.

Investigation and study of supply and distribution of power and operation of the water and sewerage systems in Dawson City was completed. A detailed report of the findings and recommendations was forwarded to the Commissioner of the Yukon Territory. Total cost of the investigation was \$16,317.88, fifty per-cent of which is payable by the Yukon Territorial Government and the balance will be charged to the Investigation Fund until it has been determined whether or not the Commission is to take an active part in a reorganization of these utilities.

POWER SUPPLY FOR PINE POINT MINING AREA, N.W.T.

Following an enquiry received from Pine Point Mines Limited the Commission is investigating the possibility of developing a supply of hydro power for the Pine Point mining area near the south shore of Great Slave Lake. Study of available information revealed that developing a site on the Slave River near Fort Smith would be too costly for the amount of power required but a reach of the Taltson River some 35 miles northeast of Fort Smith appeared to have possibilities. A reconnaissance survey, conducted in February, confirmed that there are attractive possibilities in this latter area. At year end the matter was being referred to the Pine Point Mines Limited with a view to arranging a detailed field investigation during the summer of 1962.

Cost of the initial study and reconnaissance survey amounting to \$4,074.56 as at March 31, 1962 will be charged to the Investigation Fund.

TAURCANIS MINES TRANSMISSION LINE, N.W.T.

An engineering study was carried out to select (by means of interpretation of aerial photographs) a feasible route for a transmission line extension from the existing transmission line terminal at Consolidated Discovery Mines Limited to supply Taurcanis Mines Limited located near Mackay Lake some 150 miles northeast of Yellowknife, N.W.T., and to determine the comparative cost of alternative types of construction. The cost of this investigation amounting to \$11,191.70 has been guaranteed by Taurcanis Mines Limited if such a transmission line is not undertaken as a Commission project, but will be temporarily charged to the Investigation Fund.

THE ATLANTIC PROVINCES POWER DEVELOPMENT ACT

The Atlantic Provinces Power Development Act (1958) provides for agreements between the Government of Canada and the Governments of the Atlantic Provinces, and for further agreements covering specific projects between the Northern Canada Power Commission and the respective provincial power commissions whereby assistance may be provided in respect to the generation and transmission of electric power. Such assistance may be in the form of long term loans to cover the costs of constructing thermal power plants and high voltage transmission lines and the payment of a subvention on coal mined and used within the Atlantic Provinces for generating electricity. Loans in connection with thermal power plants are repayable over the 30 year period following completion and similarly, loans relating to transmission lines are repayable over 40 years. The Northern Canada Power Commission is responsible for financing, constructing and equipping power plants and high voltage transmission lines whereas coal subventions are paid by the Dominion Coal Board.

During the year, projects approved under the provisions of the Act were as follows:

Province of New Brunswick

Project	Estimated Cost
Saint John - Moncton Transmission Line	\$ 3,000,000.00
Moncton Terminal Station Extension	150,000.00
Grand Lake Thermal Station Extension	10,000,000.00
	<u>\$13,150,000.00</u>

Province of Newfoundland

<i>Project</i>	<i>Estimated Cost</i>
Whitbourne-Peter's River Transmission Line	\$595,000.00

Funds totalling \$3,236,753.84 were advanced to the New Brunswick Electric Power Commission and to the Nova Scotia Power Commission to cover work completed on approved projects and three New Brunswick and fourteen Nova Scotia projects were declared as having been

completed. The New Brunswick Electric Power Commission made initial debt retirement payments totalling \$114,405.88 on their three completed projects of which \$19,316.70 was principal and \$95,089.18 was interest but similar repayments due from the Nova Scotia Power Commission had not been received on March 31, 1962. Complete details of funds advanced and debt retirement payments are provided in the Financial Section of this Report.

STATISTICAL DATA — 1961-1962

PLANT	NET PEAK LOAD (KILOWATTS)	GROSS GENERATION (KWH×1000)	PURCHASES (KWH×1000)	CONSUMPTION BY NCPC (KWH×1000)	SALES (KWH×1000)
<i>HYDRO</i>					
SNARE RIVER, N.W.T.	10200 (10000)	66762 (49018)	11 (3051)	2651	—
Industrial — primary	—	—	—	—	38400 (36515)
" — secondary	—	—	—	—	13652 (2323)
Wholesale	—	—	—	—	8260 (7339)
Retail	—	—	—	—	9 (3)
MAYO RIVER, Y.T.	4800 (5145)	32303 (30394)	—	1350	—
Industrial — primary	—	—	—	—	15743 (15202)
" — secondary	—	—	—	—	12100 (12853)
Wholesale	—	—	—	—	76 (72)
Retail	—	—	—	—	586 (495)
WHITEHORSE RAPIDS, Y.T.	9340 (9000)	37307 (21850)	—	1483	—
Wholesale	—	—	—	—	7808 (5918)
Primary	—	—	—	—	13281 (12915)
Secondary	—	—	—	—	13929 (11893)
<i>THERMAL</i>					
FORT SMITH, N.W.T.	1230 (950)	4493 (3772)	—	156	3888 (3349)
FORT SIMPSON, N.W.T.	400 (300)	1531 (966)	—	38	1281 (831)
INUVIK, N.W.T.					
Electricity	1390 (1180)	6331 (5075)	—	1053	4827 (3795)
Heat	42000 (38500)	—	—	—	129×10 ⁹ (125×10 ⁹)
	lbs. steam/hr.				B.T.U. steam
FROBISHER BAY, N.W.T.	1460 (1400)	8185 (5286)	—	196	7742 (4971)
FIELD, B.C.	140 (130)	672 (546)	—	11	592 (439)
FORT RESOLUTION, N.W.T.	90 (65)	341 (47)*	—	15	313 (43)*

* Part Year

() 1960 - 1961 Figures

FINANCIAL

Funds are advanced by the Minister of Finance to cover the construction of power plants and each plant is operated on a self-sustaining and separately accountable basis. Funds advanced for capital purposes are repayable by amortization and profits or losses are not transferable between plants. Power rates are established in accordance with section 10 of the Act and charges shown as depreciation include principal repayments, depreciation at 3½% per annum on assets acquired under the provisions of section 22 of the Act and depreciation at 10% per annum on the furniture and equipment in the Regional Office, Edmonton and Head Office, Ottawa. The Commission's fiscal year has been established as the 12 month period ending March 31.

Snare River Hydro Plants, N.W.T.

The original capital loan for the Snare Rapids Plant was being repaid over the 20 year period ending March 31, 1969 with interest at 3½% per annum and \$2,273,000.62 remained outstanding as of March 31, 1961. The new Snare Falls Plant was declared completed as of March 31, 1961 at a total cost of \$4,558,811.63 and authority was given whereby the pooled debt in connection with both plants (total — \$6,831,812.25) became repayable with interest at 4½% per annum during the 30 year period ending March 31, 1991. An initial charge of 3½% for depreciation was made on assets acquired from earnings as permitted under the provisions of section 22 of the Act and the first amortized debt retirement payment of \$401,102.25 on the pooled debt was made to the Minister of Finance as of March 31, 1962 of which \$119,289.99 was principal and \$281,812.26 was interest.

Revenues increased approximately 11% over the previous year to exceed operating and maintenance costs by \$223,598.00 and depreciation was charged at 3½% on assets acquired from surplus. At year-end, the accumulated surplus was \$430,684.00 after allocating \$105,000.00 to the Contingency Reserve Fund to raise that account to \$555,000.00.

Fort Smith Diesel Plant, N.W.T.

Capital loans for the Fort Smith Plant are as follows:

- (1) \$138,253.84 repayable over the 20 year period ending March 31, 1971 with an interest rate of 3½% per annum.
- (2) \$3,000.00 repayable over the 18 year period ending March 31, 1971 with an interest rate of 3¾% per annum.

(3) \$98,448.33 repayable over the 13 year period ending March 31, 1971 with an interest rate of 4½% per annum.

(4) \$176,102.74 repayable over the 30 year period ending March 31, 1991 with an interest rate of 5% per annum.

Amortized debt retirement payments totaling \$31,259.22 were made to the Minister of Finance as of March 31, 1962 of which \$16,526.28 was principal and \$14,732.94 was interest.

Revenues for the year were approximately 9% higher than for the previous year and exceeded operating and maintenance expenses by \$38,361.14. Depreciation at 3½% was charged on assets acquired from earnings, \$16,301.24 was transferred from surplus to cover assets acquired during 1960-1961 under section 22 of the Act and the accumulated surplus was \$42,650.94 at year-end. It is proposed that \$6,705.35 will be charged to the accumulated surplus during 1962-1963 to cover assets acquired during the current year as is permitted under the provisions of section 22 of the Act.

Mayo River Hydro Plant, Y.T.

The original capital loan of \$4,306,217.97 for this plant is repayable over the 20 year period ending March 31, 1973 with an interest rate of 3½% per annum and a second capital loan of \$457,652.22 covering No. 2 generating unit is repayable over the 15 year period ending March 31, 1973 with an interest rate of 3½% per annum. Amortized debt retirement payments totalling \$332,890.64 were made to the Minister of Finance as of March 31, 1962 of which \$228,546.58 was principal and \$104,344.06 was interest.

Revenues for the year increased approximately 1% over the previous year and exceeded operating costs by \$87,748.00 resulting in an accumulated surplus of \$230,610.00 at year-end. The Contingency Reserve Fund was already at the established target of \$400,000.00, hence no 1961-1962 allocation of surplus was made to that fund.

Fort Simpson Diesel Plant, N.W.T.

The original capital loan of \$110,120.17 for this plant is repayable over the 20 year period ending March 31, 1977 and a second loan of \$40,000.00 is repayable over the 18 year period terminating on the same date, both with an interest rate of 3½% per annum. A third capital loan of \$48,000.00 was advanced by the Minister of Finance on March 30, 1962 to cover the cost of generating equipment acquired during 1960 and installed prior to March 31, 1961. Repayment of this third loan

will be over the 30 year period ending March 31, 1991 with interest at 5% per annum. Amortized debt retirement payments totalling \$14,022.62 were made as of March 31, 1962 of which \$6,888.47 was principal and \$7,134.15 was interest. The principal amount was paid in full to the Minister of Finance along with \$4,740.73 interest and the difference \$2,393.42 (interest) was credited to the Snare River and Mayo River plant accounts since their funds were used to finance the 1960-1961 expansion programme from April 1, 1961 to March 30, 1962 when the required capital funds were advanced by the Minister of Finance.

Total revenues for the year were approximately 45% over the previous year and exceeded operating and maintenance expenses by \$40,113.97 and depreciation at 3½% was charged on assets acquired from earnings. No allocation to the Contingency Reserve Fund was made and the accumulated surplus at year-end was \$44,829.59. It is proposed that \$13,193.39 will be charged to the accumulated surplus during 1962-1963 to cover assets acquired during the current year as is permitted under the provisions of section 22 of the Act.

The Commission also operated the Central Heating and Water Treatment Plants at Fort Simpson, N.W.T. on behalf of the Dept. of Northern Affairs & National Resources and derived an income of \$17,172.37 which was credited to Head Office overhead.

Whitehorse Rapids Hydro Plant, Y.T.

The \$7,200,000.00 capital loan covering this plant is repayable over the 40 year period ending March 31, 1999 with interest at the rate of 4% per annum and the third amortized debt retirement payment totalling \$363,769.13 was made to the Minister of Finance as of March 31, 1962 of which \$81,951.89 was principal and \$281,817.24 was interest.

Total revenues for the year were approximately 11% higher than for the previous year and exceeded operating and maintenance expenses by \$135,124.31. The Contingency Reserve Fund was increased from \$150,000.00 to \$250,000.00 which resulted in an accumulated surplus of \$58,993.21 at year-end.

Inuvik Utilities Plant, N.W.T.

The Inuvik Utilities Plant was declared completed as of March 31, 1961 at a total cost of \$8,027,089.17 of which \$1,023,174.21 relates to the power plant and the balance of \$7,003,914.96 covers the Central Heating, Water, Sewage and Fire Alarm Systems. Under the provisions of P.C. 1957-36/626 dated May 3, 1957 and P.C. 1957-1020 dated July 31, 1957, the power plant is to be operated on a self-

supporting basis and provision is thereby included whereby the capital investment (\$1,023,174.21) is to be repaid to the Minister of Finance over the 30 year period ending March 31, 1991 with interest at the rate of 4¾% per annum.

Under the same authority, the Commission will be reimbursed in due course with the cost of the Central Heating, Water, Sewage and Fire Alarm Systems, from funds to be appropriated by Parliament for the purpose. Accordingly, the first amortized debt retirement payment totalling \$61,893.63 was made to the Minister of Finance as of March 31, 1962 of which \$17,129.56 was principal and \$44,763.87 was interest.

Total revenues for the year were approximately 24% over the previous year and exceeded operating and maintenance expenses by \$35,015.83. An allocation of \$40,000.00 was made to the Contingency Reserve Fund to increase that account to \$140,000.00 which left an accumulated surplus of \$13,297.56 at year-end.

Frobisher Bay Diesel Plant, N.W.T.

The Commission leases a portion of the Frobisher Bay Plant as it stands from the Department of Transport at a rental rate of \$23,500.00 per annum. During 1960, expansion was authorized to provide additional generating equipment, staff housing and improvements and extensions to the distribution system. This program was declared completed as of March 31, 1961 at a total cost of \$569,061.64 which is repayable over the thirty year period ending March 31, 1991 with interest at the rate of 5¾% per annum. Accordingly the first amortized debt retirement payment totalling \$40,241.90 was made to the Minister of Finance as of March 31, 1962 of which \$7,520.86 was principal and \$32,721.04 was interest.

Total revenues for the year were approximately 39% over the previous year and exceeded operating and maintenance expenses by \$97,693.83. An allocation of \$50,000.00 was made to the Contingency Reserve Fund to raise that account to \$200,000.00 and the accumulated surplus was \$87,305.09 at year-end.

Field Diesel Plant, B.C.

The \$200,000.00 capital loan covering the Field Plant is repayable over the thirty year period ending March 31, 1990 with interest at the rate of 5% per annum and the second amortized debt retirement payment totalling \$13,010.29 was made to the Minister of Finance as of March 31, 1962 of which \$3,160.80 was principal and \$9,849.49 was interest.

Total revenues for the year increased approximately 25% over the previous year and exceeded operating and maintenance expenses by \$8,321.28. An initial allocation of \$4,000.00 was made to the Contingency Reserve Fund and the accumulated surplus was \$3,485.82 at year-end.

Fort Resolution Diesel Plant, N.W.T.

The Fort Resolution Plant was declared completed as of March 31, 1961 and the covering capital loan of \$125,000.00 from the Minister of Finance is repayable over the 30 year period ending March 31, 1991 with interest at the rate of 5% per annum. Accordingly, the first amortized debt retirement payment totalling \$8,131.43 was made as of March 31, 1962 of which \$1,881.43 was principal and \$6,250.00 was interest. The principal amount was paid in full to the Minister of Finance along with \$17.12 interest and the difference of \$6,232.88 (interest) was credited to the Snare River, Whitehorse and Frobisher Bay Plant accounts in the respective proportions of 50%, 25% and 25% since their funds were used to finance the project from April 1, 1961 to March 30, 1962 when the required Capital funds were advanced by the Minister of Finance.

Total revenues for the year were \$43,822.68 and operating and maintenance expenses totalled \$41,157.94 resulting in profit of \$2,664.74 for the year. An initial allocation of \$2,000.00 was made to the Contingency Reserve Fund and the accumulated surplus was \$1,431.40 at year-end.

Contract Work

The Commission operated the Fort McPherson, N.W.T. Power and Heating plants and the Fort Simpson, N.W.T. Central Heating and Water Treatment plants on behalf of the Dept. of Northern Affairs and National Resources. In addition, construction and miscellaneous electrical and mechanical maintenance services were provided to government departments and to other customers on a recoverable basis with a surcharge of 25% to offset general overhead. The Statement of Income and Expense (by plants) in this report under Contract Income shows totals of the income and expense involved and surcharges totalling \$59,861.75 to offset general overhead are reflected in Head Office Assessment. By plants, this surcharge was derived from the following operations:

Fort Smith, N.W.T.	\$ 1,571.01
Mayo River, Y.T.	73.58
Fort Simpson, N.W.T.	23,440.23
Inuvik, N.W.T.	12,593.78

Frobisher Bay, N.W.T.	215.40
Fort McPherson, N.W.T.	15,469.48
Fort Resolution, N.W.T.	1,352.45
Head Office (Ottawa)	5,145.82
	<hr/>
	\$59,861.75

The Atlantic Provinces Power Development Act

During the year, claims totalling \$3,236,753.84 were paid in connection with work completed on approved projects of which \$2,927,967.63 related to projects in the Province of New Brunswick and \$308,786.21 related to projects in the Province of Nova Scotia.

Three New Brunswick projects and fourteen Nova Scotia projects were declared completed and initial amortized debt retirement payments totalling \$114,405.88 were paid by The New Brunswick Electric Power Commission of which \$19,316.70 was principal and \$95,089.18 was interest. Similar payments totalling \$162,847.41 were due from The Nova Scotia Power Commission in connection with six of their completed projects but payment was not received as of March 31, 1962 (required payment received Ottawa — April 4, 1962).

At year-end, The New Brunswick Electric Power Commission and The Nova Scotia Power Commission were charged \$2,541.10 and \$1,020.20 respectively to cover engineering and administrative costs which was credited to the Head Office account.

Complete data, showing funds advanced, interest accruals, principal repayments and interest paid by projects, is provided on a summary sheet, the final financial statement of this report.

FINANCIAL STATEMENTS

Included in this report is the Consolidated Balance Sheet of the Commission as at March 31, 1962 certified by the Auditor General of Canada, which reflects the financial position of the Commission's various plants and projects (refer Exhibits I-IV inclusive).

Also included are the Commission's supplementary detailed statements as follows:

- Exhibit V — Assets and Liabilities by Plants and Projects, as at March 31, 1962.
- Exhibit VI — Income and Expense, by Plants, for the year ended March 31, 1962.
- Exhibit VII — Earned Surplus by Plants, for the year ended March 31, 1962.
- Exhibit VIII — Summary of Projects authorized under The Atlantic Provinces Power Development Act, as at March 31, 1962.

Ottawa, June 29, 1962.

The Honourable Walter Dinsdale,
Minister of Northern Affairs and National Resources,
Ottawa.

Sir,

The accounts and financial statements of Northern Canada Power Commission have been examined for the year ended March 31, 1962. In compliance with the requirements of section 87 of the Financial Administration Act, I now report that, in my opinion:

- (a) proper books of account have been kept by the Commission;
- (b) the financial statements of the Commission
 - (i) were prepared on a basis consistent with that of the preceding year and are in agreement with the books of account, except that (a) the accounts for the current year reflect revenue of \$470,539 and related direct expenditures of \$420,962 arising from construction, maintenance and operation of facilities for government departments and others, whereas in the preceding year only net results were recorded, and (b) the loans and advances by the Government of Canada, administered by the Northern Canada Power Commission pursuant to agreements entered into under the Atlantic Provinces Power Development Act, formerly shown on the balance sheet of the Commission are now presented on a separate statement as Exhibit II,
 - (ii) in the case of the balance sheet, give a true and fair view of the state of the Commission's affairs as at the end of the financial year, and
 - (iii) in the case of the statement of income and expense, give a true and fair view of the income and expense of the Commission for the financial year; and
- (c) the transactions of the Commission that have come under my notice have been within the powers of the Commission under the Financial Administration Act and any other Act applicable to the Commission.

Yours faithfully,

A. M. Henderson,
Auditor General of Canada.

NORTHERN CANA

(Established by the North

Balance Sheet

(with comparative fig

Assets		1962	1961
Current Assets:			
Cash		\$ 12,468	\$ 396,871
Accounts receivable		1,470,579	1,517,099
Inventories of maintenance and operating supplies, at cost		517,246	399,986
Prepaid and deferred expenses		17,242	15,548
Total Current Assets		2,017,535	2,329,504
Bonds held as Contractors' and Consumers' Security Deposits		75,000	190,000
Investment in Government of Canada Bonds, at cost, including accrued interest (market value \$1,017,583)		1,003,583	498,750
Capital Assets, at cost:			
Power plants	\$18,934,896		13,952,666
Public utilities at Inuvik, N.W.T. (less depreciation \$245,137)	6,758,778		—
Transmission and distribution facilities	3,259,471		2,454,056
Staff dwellings, warehouses and miscellaneous buildings	900,044		875,657
Communication, transportation and other equipment	535,107		524,398
Projects under construction	40,611		12,625,831
	30,428,907		30,432,608
Less: Accumulated depreciation (equivalent to repayments of principal of advances from the Government of Canada)	4,563,238		4,082,350
		25,865,609	26,350,258
		28,961,727	29,368,512

Certified correct:

(Sgd.) T. A. Stott

Secretary-Comptroller

Approved:

(Sgd.) R. G. Robertson

Chairman

Canada Power Commission Act)

March 31, 1962

at March 31, 1961)

Liabilities

	1962	1961
Current Liabilities:		
Accounts payable	\$ 194,422	\$ 231,932
Contractors' holdbacks	14,500	111,109
Total Current Liabilities	208,922	343,041
Security Deposits:		
Consumers	\$ 83,070	82,320
Construction contractors	4,199	125,501
	87,269	207,821
Proprietary Equity of the Government of Canada:		
Advances:		
Under section 14 of the Act—for investigation of projects	50,000	50,000
Under section 15 of the Act—for capital expenditures, including accrued interest	19,104,419	19,680,038
Equity represented by depreciated value of public utilities at Inuvik, N.W.T. financed by advances under section 15 of the Act recoverable from funds to be appropriated by parliament according to Order in Council P.C. 1957-36/626 of May 3, 1957	6,758,778	7,003,915
Reserve for contingencies, pursuant to section 10 of the Act	1,611,000	1,310,000
Reserve for extension, expansion and improvements, equivalent to expenditures incurred on acquisition of capital assets, as permitted under section 22 of the Act	228,049	211,748
Earned surplus, per Statement of Surplus	913,290	561,949
	28,665,536	28,817,650
	28,961,727	29,368,512

The above Balance Sheet and the related Statement of Income and Expense have been examined and reported upon under date of June 29, 1962 to the Minister of Northern Affairs and National Resources as required by section 87 of the Financial Administration Act.

A. M. Henderson,
Auditor General of Canada.

NORTHERN CANADA POWER COMMISSION

EXHIBIT II

Statement of Loans and Advances by the Government of Canada administered by the Northern Canada Power Commission pursuant to agreements entered into under the Atlantic Provinces Power Development Act

Nova Scotia Power Commission

Balance as at April 1, 1961		\$ 7,492,314
Add:		
Advances	\$ 308,786	
Interest on advances	223,621	
		<u>532,407</u>
Balance as at March 31, 1962:		
Projects under construction, including accrued interest \$39,658 ..	464,658	
Projects completed	7,560,063	
		<u>8,024,721</u>

New Brunswick Electric Power Commission

Balance as at April 1, 1961		\$ 6,753,749
Add:		
Advances	\$2,927,968	
Interest on advances	357,651	
		<u>3,285,619</u>
		10,039,368
Deduct:		
Payments of principal and interest		<u>114,406</u>
Balance as at March 31, 1962:		
Projects under construction, including accrued interest \$434,165	6,751,162	
Projects completed	3,173,800	
		<u>9,924,962</u>

NORTHERN CANADA POWER COMMISSION

EXHIBIT III

Statement of Income and Expense for the year ended March 31, 1962

(with comparative figures for the year ended March 31, 1961)

Income	1962	1961
Sales of power:		
Mining	\$1,109,194	\$1,011,243
Commercial	1,609,057	1,305,383
Domestic	317,726	242,493
	<hr/>	<hr/>
	\$3,035,977	2,559,119
Income arising from construction, maintenance and operation of facilities for government departments and others ..	470,539	—
Sales of steam and water heat	374,877	321,336
Miscellaneous	106,543	139,764
	<hr/>	<hr/>
	3,987,936	3,020,219
Expense		
Operating:		
Salaries and wages	795,952	498,070
Fuel oil and lubricants	523,425	408,049
Materials and supplies relevant to construction, maintenance and operation of facilities for government departments and others	109,878	—
Maintenance and improvements to structures and equipment	106,541	91,018
Power purchased for resale	—	47,706
Employees' board and accommodation (net)	102,429	49,243
Travel and removal	63,839	38,505
Generating plant and line rental	39,823	25,900
Trucks, tractors, etc.	15,228	11,068
Charter of aircraft	14,448	9,758
Insurance	11,481	11,032
Miscellaneous	40,011	38,007
	<hr/>	<hr/>
	1,823,055	1,228,356
Administrative:		
Salaries	195,775	150,963
Office rent	13,340	13,340
Miscellaneous	17,869	13,479
	<hr/>	<hr/>
	226,984	177,782
Interest on advances from the Government of Canada ..	774,799	497,804
Depreciation:		
Capital assets, other than public utilities at Inuvik, N.W.T. (equivalent to repayment of principal of advances from the Government of Canada)	494,456	569,422
Public utilities at Inuvik, N.W.T.	245,137	—
	<hr/>	<hr/>
	739,593	—
	<hr/>	<hr/>
	3,564,431	2,473,364
	<hr/>	<hr/>
	423,505	546,855
Operating Profit		
Add: Depreciation on public utilities at Inuvik, N.W.T., financed by advances under section 15 of the Act, recoverable from funds to be appropriated by parliament according to Order-in-Council P.C. 1957-36/626 of May 3, 1957	245,137	—
	<hr/>	<hr/>
Net Income, carried to Surplus Account	668,642	546,855

NORTHERN CANADA POWER COMMISSION
Statement of Surplus for the year ended March 31, 1962

Balance as at April 1, 1961		\$561,949
<i>Deduct:</i>		
Transfer to Reserve for Contingencies	\$301,000	
Transfer to Reserve for Extension, Expansion and Improvements of amounts equivalent to expenditures incurred on acquisition of capital assets, as permitted under section 22 of the Act	16,301	
		<hr/> 317,301
		244,648
<i>Add:</i>		
Net income for the year, per Statement of Income and Expense		<hr/> 668,642
Balance as at March 31, 1962		<hr/> <hr/> 913,290

NORTHERN CANADA POWER COMMISSION **Assets and Liabilities, by Plants and Projects, as at March 31, 1962**

ASSETS	SNARE RIVER PLANTS	FORT SMITH PLANT	MAYO PLANT	FORT SIMPSON PLANT	WHITEHORSE PLANT	INUUVIK PLANT	FROBISHER BAY PLANT	FIELD PLANT	FORT RESOLUTION PLANT	REGIONAL AND HEAD OFFICES	TOTAL
Cash:											
Capital Account	\$ 10,795	\$ (6,705)	\$ 52,795	\$ (13,383)	\$ 105,857	\$	\$ 97,741	\$ 1,314	\$ 1,451	\$ (11,046)	\$ 238,819
Special Account	415,035	(74,564)	257,485	(17,896)	90,363	(629,348)	57,189	(2,520)	(28,417)	(293,698)	(226,351)
Accounts Receivable	169,957	69,442	49,157	39,086	90,059	432,812	86,943	7,219	14,755	511,149	1,470,579
Inventories of Maintenance and Operating Supplies at Cost	63,648	66,292	18,256	28,358	13,637	274,903	28,262	3,310	17,514	3,066	517,246
Investments in Government of Canada Bonds, at cost, including Accrued Interest (Market value \$1,017,583)	344,742	34,474	306,438	11,491	114,914	76,610	114,914	—	—	—	1,003,583
Prepaid and Deferred Expenses	—	—	—	—	—	—	—	—	—	17,242	17,242
Bonds held as Consumers' Security Deposits	50,000	—	25,000	—	—	—	—	—	—	—	75,000
Capital Assets, at cost:											
Power Plants	6,861,596	362,848	3,746,048	146,468	6,741,432	617,115	242,317	116,110	100,962	—	18,934,896
Public Utilities at Inuvik (less depreciation \$245,137)	—	—	—	—	—	6,758,778	—	—	—	—	6,758,778
Transmission and Distribution Facilities	1,784,995	138,826	571,414	38,020	251,139	397,608	33,541	27,229	16,699	—	3,259,471
Staff Dwellings, Warehouses and Miscellaneous Buildings	329,030	29,516	264,757	18,980	77,643	—	134,280	45,838	—	—	900,044
Communication, Transportation and other Equipment	282,140	15,160	104,290	12,120	21,367	8,411	41,320	8,902	5,609	35,788	535,107
Projects under construction	—	—	21,479	1,330	—	—	17,802	—	—	—	40,611
Less: Accumulated Depreciation (equivalent to Repayments of Principal of Government Advances)	(2,459,577)	(98,018)	(1,711,851)	(26,598)	(233,959)	(17,089)	(5,462)	(5,563)	(1,602)	(3,579)	(4,563,298)
	7,852,361	537,271	3,705,268	237,976	7,272,472	7,919,800	848,847	201,839	126,971	258,922	28,961,727

NORTHERN CANADA POWER COMMISSION Assets and Liabilities, by Plants and Projects, as at March 31, 1962

LIABILITIES	SNARE RIVER PLANTS	FORT SMITH PLANT	MAYO PLANT	FORT SIMPSON PLANT	WHITEHORSE PLANT	INUUVIK PLANT	FROBISHER BAY PLANT	FIELD PLANT	FORT RESOLUTION PLANT	REGIONAL AND HEAD OFFICES	TOTAL
Accounts Payable	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —	\$194,422	\$ 194,422
Contractor's Holdback	—	—	—	—	—	—	—	—	—	14,500	14,500
Security Deposits:											
Consumers	50,000	3,700	25,725	1,020	—	1,680	—	525	420	—	83,070
Construction Contractors	4,199	—	—	—	—	—	—	—	—	—	4,199
Proprietary Equity:											
Advances from the Government of Canada:											
Section 14 of the Act for Investigation of Projects	—	—	—	—	—	—	—	—	—	50,000	50,000
Section 15 of the Act for Capital Expenditures including Accrued Interest	6,712,522	323,241	3,048,932	171,712	6,963,479	1,006,044	561,541	193,829	123,119	—	19,104,419
Equity represented by Depreciated Value of Public Utilities at Inuvik, N.W.T. financed by Advances under Section 15 of the Act, recoverable from Funds to be appropriated by Parliament according to Order-in-Council P.C. 1957-36 / 626 of May 3, 1957	—	—	—	—	—	6,758,778	—	—	—	—	6,758,778
Reserve for Extension, Expansion and Improvements equivalent to Expenditures incurred on acquisition of Capital Assets as permitted under Section 22 of the Act	99,956	122,679	—	5,414	—	—	—	—	—	—	228,049
Reserve for Contingencies pursuant to Section 10 of the Act	555,000	45,000	400,000	15,000	250,000	140,000	200,000	4,000	2,000	—	1,611,000
Earned Surplus per Statement of Surplus	430,684	42,651	230,611	44,830	58,993	13,298	87,306	3,485	1,432	—	913,290
	7,852,361	537,271	3,705,268	237,976	7,272,472	7,919,800	848,847	201,839	126,971	258,922	28,961,727

NORTHERN CANADA POWER COMMISSION

EXHIBIT VI

Statement of Income and Expense for the year ended March 31, 1962

	SNARE RIVER PLANTS	FORT SMITH PLANT	MAYO PLANT	FORT SIMPSON PLANT	WHITEHORSE PLANT	INUVIK PLANT	FROBISHER BAY PLANT	FIELD PLANT	FORT RESOLUTION AND HEAD PLANT	REGIONAL AND HEAD OFFICES	CONTRACT WORK	TOTAL
Income												
Sales of Power:												
Mining	\$654,360	—	\$454,834	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —	\$1,109,194
Commercial	125,512	104,614	25,905	110,854	576,601	177,943	403,191	41,405	37,705	—	5,327	1,609,057
Domestic	—	110,086	8,674	28,935	—	89,693	56,808	15,346	4,687	—	3,497	317,726
Income arising from Construction, Maintenance and Operations on behalf of Government Departments and others	—	—	—	—	—	—	—	—	—	—	470,539	470,539
Sales of Steam and Water Heating	—	—	—	—	—	374,877	—	—	—	—	—	374,877
Miscellaneous	15,027	4,808	13,396	2,166	8,248	42,120	10,480	1,956	78	6,804	1,460	106,543
	794,899	219,508	502,809	141,955	584,849	684,633	470,479	58,707	42,470	6,804	480,823	3,987,936
Expense												
Operating Expenses:												
Salaries and Wages	76,096	54,422	47,505	37,150	54,907	175,611	77,376	20,279	17,870	—	234,736	795,952
Fuel Oil and Lubricants	1,869	54,613	185	20,952	330	265,144	157,539	8,555	6,096	—	8,142	523,425
Materials and Supplies relevant to Construction, Maintenance and Operations on behalf of Govern- ment Departments and others	2,641	1,086	661	1,394	573	7,199	1,800	234	991	—	93,299	109,878
Maintenance and Improvements to Structures and Equipment	21,527	11,748	9,634	8,225	2,287	28,692	12,391	1,247	2,033	—	8,757	106,541
Employees' Board and Accommo- dation (Net)	4,007	4,648	—	792	2,359	32,844	20,712	1,546	172	—	35,349	102,429
Travel and Removal	3,410	2,442	3,297	3,428	3,158	20,409	11,041	495	593	—	15,566	63,839
Generating Plant and Line Rental	5,579	9	—	36	—	972	25,315	—	—	—	7,912	39,823
Trucks, Tractors, etc.	3,496	777	1,538	623	422	3,848	706	232	339	—	3,247	15,228
Charter of Aircraft	10,908	97	—	566	—	786	—	—	240	—	1,851	14,448
Insurance	807	2,007	926	914	717	1,589	3,318	499	581	—	123	11,481
Miscellaneous	5,865	1,762	1,184	2,147	2,757	9,546	4,021	486	263	—	11,980	40,011
Administration:												
Salaries	—	—	—	—	—	—	—	—	—	195,775	—	195,775
Office Rent	—	—	—	—	—	—	—	—	—	13,340	—	13,340
Miscellaneous	—	—	—	—	—	—	—	—	—	17,869	—	17,869
Head Office Assessment	34,809	11,983	18,436	11,402	20,004	41,084	19,882	3,802	2,496	(223,759)	59,861	—
Interest on Advances from the Government of Canada	277,499	14,733	103,147	7,134	280,259	44,764	31,163	9,850	6,250	—	—	774,799
Depreciation:												
Capital Assets, other than Public Utilities at Inuvik, N.W.T. (equi- valent to annual repayment of Government Advances)	122,788	20,820	228,547	7,078	81,952	17,129	7,521	3,161	1,881	3,579	—	494,456
Public Utilities at Inuvik, N.W.T.	—	—	—	—	—	245,137	—	—	—	—	—	245,137
	571,301	181,147	415,060	101,841	449,725	894,754	372,785	50,386	39,805	6,804	480,823	3,564,431
	223,598	38,361	87,749	40,114	135,124	(210,121)	97,694	8,321	2,665	—	—	423,505
Operating Profit												
Add: Depreciation for Public Utilities at Inuvik, N.W.T. financed by Ad- vances under Section 15 of the Act, recoverable from funds to be appro- priated by Parliament in accordance with Order in Council P.C. 1957- 36/626 of May 3, 1957	—	—	—	—	—	245,137	—	—	—	—	—	245,137
Net Income, carried to Surplus Account	223,598	38,361	87,749	40,114	135,124	35,016	97,694	8,321	2,665	—	—	668,642

NORTHERN CANADA POWER COMMISSION
Earned Surplus, by Plants, for the year ended March 31, 1962

	SNARE RIVER PLANTS	FORT SMITH PLANT	MAYO PLANT	FORT SIMPSON PLANT	WHITEHORSE PLANT	INUUVIK PLANT	FROBISHER BAY PLANT	FIELD PLANT	FORT RESOLUTION PLANT	TOTAL
Balance at beginning of year	\$312,086	\$20,591	\$142,862	\$ 4,716	\$ 23,869	\$18,282	\$ 39,612	\$ (836)	\$ 767	\$ 561,949
Add:										
Net income for year	223,598	38,361	87,749	40,114	135,124	35,016	97,694	8,321	2,665	668,642
	535,684	58,952	230,611	44,830	158,993	53,298	137,306	7,485	3,432	1,230,591
Deduct:										
Transfers to Reserve for Contingencies	105,000	—	—	—	100,000	40,000	50,000	4,000	2,000	301,000
Transfers to Reserve for Extension, Expansion and Improvements as permitted under Section 22 of the Act	—	16,301	—	—	—	—	—	—	—	16,301
	105,000	16,301	—	—	100,000	40,000	50,000	4,000	2,000	317,301
Balance at end of year	430,684	42,651	230,611	44,830	58,993	13,298	87,306	3,485	1,432	913,290

THE ATLANTIC PROVINCES POWER DEVELOPMENT ACT

Summary of Projects as at March 31, 1962

EXHIBIT VIII

PROVINCE — PROJECT

PROVINCE OF NEW BRUNSWICK

PROJECT	DATE OF COMPLETION	ADVANCES TO MARCH 31, 1961	ADVANCES TO MARCH 31, 1962	ACCUAL OF INTEREST TO (OR TO DATE OF COMPLETION)	TOTAL FOR REPAYMENT	PRINCIPAL REPAID MARCH 31, 1962	INTEREST PAID MARCH 31, 1962	OUTSTANDING BALANCE MARCH 31, 1962
Beechwood — Fredericton Transmission Line	•	\$ —	\$1,218,255.39	\$ 21,685.79	\$ 1,239,941.18	\$ —	\$ —	\$ 1,239,941.18
Grand Falls — Beechwood Transmission Line	Dec. 29, 1961	—	787,308.49	16,778.80	804,087.29	1,677.77	10,133.70	802,409.52
Grand Lake — Newcastle Transmission Line	•	220,192.45	311,585.55	30,466.39	562,244.39	—	—	562,244.39
Moncton — N.S. Border Transmission Line	•	1,118,742.11	6,257.89	109,965.36	1,234,965.36	—	—	1,234,965.36
Newcastle — Bathurst Transmission Line	Aug. 4, 1961	881,978.79	43,951.51	57,082.38	983,012.68	6,013.92	28,965.21	976,998.76
Saint John — Fredericton Transmission Line	•	2,045,000.00	—	189,155.97	2,234,155.97	—	—	2,234,155.97
Bathurst Terminal Station	•	—	77,801.90	528.07	78,329.97	—	—	78,329.97
Fredericton Terminal Station	May 12, 1961	1,345,721.05	10,032.32	50,262.99	1,406,016.36	11,625.01	55,990.27	1,394,391.35
Saint John Terminal Station	•	846,387.13	72,716.98	72,895.91	992,000.02	—	—	992,000.02
Beechwood Terminal Station Extension	•	—	318,132.16	7,019.00	325,151.16	—	—	325,151.16
Grand Falls Terminal Station Extension	•	—	75,000.00	2,414.37	77,414.37	—	—	77,414.37
Grand Lake Terminal Station Extension	•	—	6,925.44	34.15	6,959.59	—	—	6,959.59
TOTALS (Province of New Brunswick)		6,458,021.53	2,927,967.63	558,289.18	9,944,278.34	19,316.70	95,089.18	9,924,961.64

85

PROVINCE OF NOVA SCOTIA

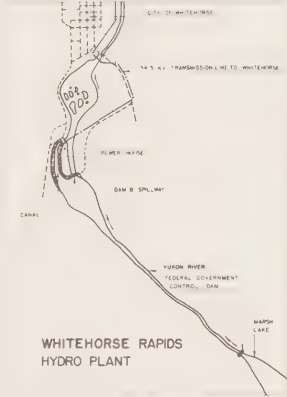
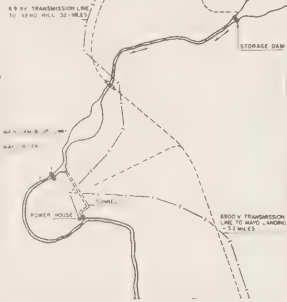
Antigonish — West Bay Transmission Line	March 31, 1961	735,669.17	—	30,997.26	766,666.43	—	—	766,666.43
Bear River — Big Falls Transmission Line	March 31, 1962	—	56,981.02	7.81	56,988.83	—	—	56,988.83
Cowie Falls — Sable River Transmission Line	March 31, 1962	148,175.63	138,355.36	10,972.41	297,503.40	—	—	297,503.40
Hunter's Mountain — Tarbot Transmission Line	March 31, 1962	392,055.02	(3,407.81)	38,732.20	427,379.41	—	—	427,379.41
Interconnection with N.S.L. & P. Co. Ltd. System	March 31, 1961	82,768.90	—	6,372.08	89,140.98	—	—	89,140.98
Maccan — N.B. Border Transmission Line	March 31, 1961	349,878.76	—	8,091.78	357,970.54	—	—	357,970.54
Ruth Falls — Truro Transmission Line	March 31, 1962	—	4,072.93	0.56	4,073.49	—	—	4,073.49
Sissiboo Hydro — Weymouth Falls Transmission Line	March 31, 1962	27,808.68	8,724.85	3,272.26	39,805.79	—	—	39,805.79
Trenton — Antigonish Transmission Line	March 31, 1961	733,512.52	—	48,062.68	781,575.20	—	—	781,575.20
Trenton — Truro Transmission Line	March 31, 1961	127,679.93	—	9,409.84	137,089.77	—	—	137,089.77
Truro — Maccan Transmission Line	March 31, 1961	616,444.49	—	45,425.60	661,870.09	—	—	661,870.09
West Bay — Hunter's Mountain Transmission Line	•	50,000.00	—	4,521.27	54,521.27	—	—	54,521.27
Maccan Terminal Station	•	250,000.00	—	23,598.89	273,598.89	—	—	273,598.89
Sissiboo Terminal Station	•	114,111.85	10,888.15	11,538.35	136,538.35	—	—	136,538.35
Trenton Terminal Station	March 31, 1962	289,251.69	9,109.48	32,798.93	331,160.10	—	—	331,160.10
Truro (Onslow) Terminal Station	March 31, 1962	304,567.95	(2,017.97)	27,716.74	330,266.72	—	—	330,266.72
Trenton Thermal Electric Generating Plant Extension	March 31, 1962	2,865,612.35	86,080.20	326,879.03	3,278,571.58	—	—	3,278,571.58
TOTALS (Province of Nova Scotia)		7,087,536.94	308,786.21	628,397.69	8,024,720.84	—	—	8,024,720.84
TOTALS (Provinces of New Brunswick and Nova Scotia)		13,545,558.47	3,236,753.84	1,186,686.87	17,968,999.18	19,316.70	95,089.18	17,949,682.48

NOTE: (*) in column headed "Date of Completion" indicates Project has not been declared complete as of March 31, 1962.

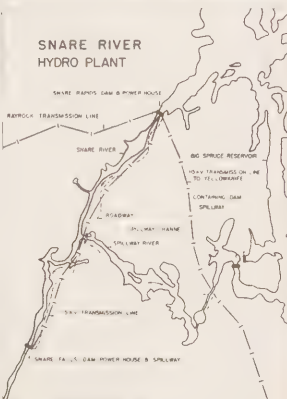
INUVIK UTILITY PLANT
1 STEAM TURBINE - 600 KW
4 DIESEL UNITS - 1900 KW
TOTAL CAPACITY - 2500 KW
3-30,000 LB PER HR BOILERS

FORT McPHERSON DIESEL PLANT
2 UNITS - 225 KW TOTAL

MAYO RIVER
HYDRO PLANT



FORT SIMPSON DIESEL PLANT
4 UNITS - 550 KW TOTAL



FORT RESOLUTION DIESEL PLANT
3 UNITS - 325 KW TOTAL

FORT SMITH DIESEL PLANT
3 UNITS - 1875 KW TOTAL

FIELD DIESEL PLANT
3 UNITS - 400 KW TOTAL

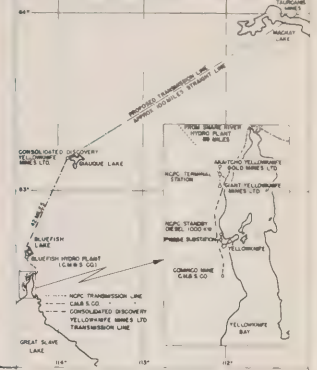


NORTHERN CANADA POWER COMMISSION CANADA

MILES 100 50 0 100 200 300 400 MILES
KILOMETRES 100 0 100 200 300 400 500 600 KILOMETRES

Federal Capital...● Provincial Capital...
Railways
Highways

YELLOWKNIFE AREA TRANSMISSION LINES



YELLOWKNIFE STANDBY DIESEL PLANT
1 UNIT - 1000 KW

FROBISHER BAY DIESEL PLANT
6 UNITS - 3100 KW TOTAL



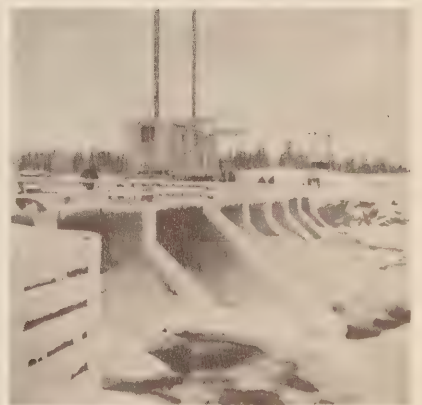
Section of Utilidor
System — Inuvik,
N.W.T.



Powerhouse and
Surge Tank —
Mayo River
Hydro-Electric Plant



Spillway — Snare
Rapids Hydro-
Electric Plant



115 KV Oil
Circuit Breaker —
Snare - Yellowknife
Transmission Line





Lacking 1962/63

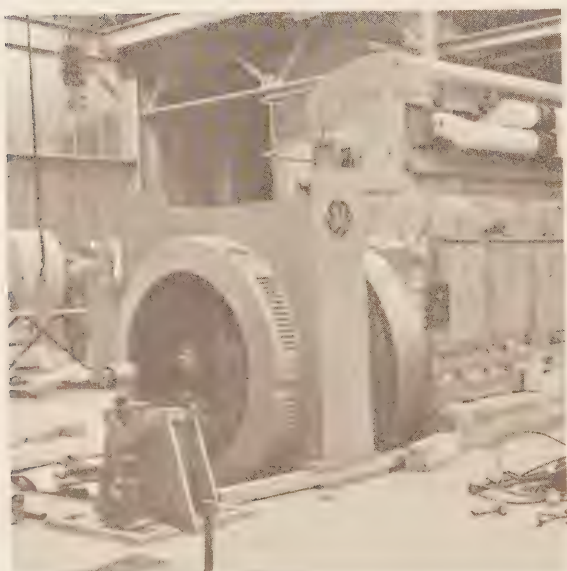


NORTHERN CANADA POWER COMMISSION

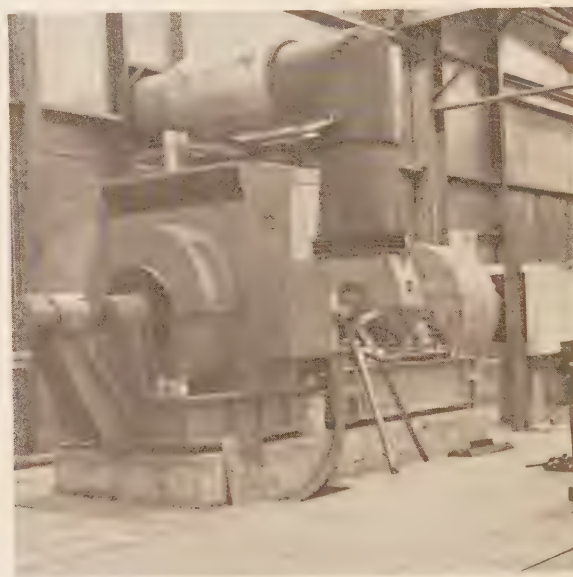
16TH ANNUAL REPORT 1963-1964



Aerial View of powerhouse and oil storage Tank pad Frobisher Bay, N.W.T.



KS 6 Diesel generator and alternator during installation — Frobisher Bay, N.W.T.



Gas turbine and alternator
Frobisher Bay, N.W.T.



ANNUAL REPORT

of the

Northern Canada Power Commission

for the Fiscal Year ended March 31, 1964

OTTAWA, CANADA



Northern Canada Power Commission

Fiscal Year 1963-1964

E. A. Côté *Chairman*

T. M. Patterson *Member*

J. F. Parkinson *Member*

E. W. Humphrys *General Manager - Chief Engineer*

T. A. Stott *Secretary-Comptroller*

Northern Canada Power Commission

June 30, 1964.

The Honourable Arthur Laing, M.P.,
Minister of Northern Affairs and National Resources,
Ottawa, Ontario.

Dear Sir,

I beg to submit herewith the report of the Northern Canada Power Commission for the fiscal year ended March 31, 1964, as required under Section 24 of the Northern Canada Power Commission Act, Chapter 42, 4-5, Eliz. II.

Respectfully submitted,

E. A. Côté
Chairman.

ANNUAL REPORT

of the

NORTHERN CANADA POWER COMMISSION

for the Fiscal Year ended

March 31, 1964

OTTAWA, CANADA

The Northern Canada Power Commission operates under authority of the Northern Canada Power Commission Act (4-5 Eliz. II, Chap. 42). The Commission is empowered to construct and operate public utility plants in the Northwest Territories and Yukon Territory and, subject to approval of the Governor General-in-Council, elsewhere in Canada. It is a requirement of the authorizing Act that projects undertaken by the Commission shall be self-sustaining; consequently rates charged for utilities supplied must provide sufficient revenue to cover interest on investment, repayment of principal over a period of years, operating and maintenance expenses and a contingency reserve. The Commission is thus a Federal Government Agency concerned with the construction and management of public utilities on a commercial basis.

Currently the Commission operates four hydro stations and eight thermal plants. These are:

(I) *Snare River Hydro System, N.W.T.* — situated some ninety miles northwest of Yellowknife, N.W.T., supplying the Yellowknife area. This system comprises the 8,350 HP Snare Rapids plant on the Snare River which was commissioned in 1948, and the 9,200 HP Snare Falls plant, (located about 8 miles downstream of the Rapids plant) which was placed in service in December, 1960. These two generating stations are connected to a terminal transformer station near Yellowknife by a 115 KV wood pole transmission line. Interconnection with the Consolidated Mining and Smelting Company Limited's Bluefish Hydro Plant is provided by a short 34.5 KV transmission line extending from the terminal station to a nearby point on the Bluefish-Yellowknife transmission line. The system includes a 1,000 KW diesel standby plant located in Yellowknife.

(II) *Mayo River Hydro Plant, Y.T.* — commissioned in November 1952 as a 3,000 HP plant and increased to 6,000 HP by addition of a second unit in 1957. This plant is located about 5 miles north of Mayo, Y.T. and supplies power over approximately 32 miles of 69,000 volt line to mining properties in the vicinity of Elsa and Keno Hill and to a privately owned distribution system serving the community of Keno City. A 6,900 volt transmission line extends from the generating plant to supply a Commission owned distribution system which serves the settlement of Mayo, Y.T.

(III) *Whitehorse Rapids Hydro Plant, Y.T.* — commissioned in 1958 as a two unit 15,000 HP development located on the Yukon River about two miles upstream from Whitehorse. This plant supplies the Department of National Defence installations in the Whitehorse area and, by supplementing the Yukon Electric Company's own hydro generation, a substantial portion of the requirements of the City of Whitehorse; in addition, power that is currently surplus is supplied for heating purposes (through the medium of electric boilers) directly to the Department of National Health and Welfare hospital and to two hostels operated by the Indian Affairs Branch of the Department of Citizenship and Immigration.

(IV) *Fort Smith Diesel Plant, N.W.T.* — established in 1950 as a 350 KW plant and enlarged in 1955, 1958, 1960 and 1962. This plant currently has an installed capacity of 2,250 KW and an associated distribution system serves the Fort Smith townsite and airport areas.

(V) *Fort Simpson Diesel Plant, N.W.T.* — established in 1956 with initial capacity

of 225 KW, and enlarged in 1958, 1960 and 1962 to the present capacity of 1,075 KW. This plant supplies the community of Fort Simpson and the Fort Simpson Airport situated some 12 miles south of the settlement. The central heating system serving the federal school and hostels, and the water and sewerage systems serving the community are operated by the Commission on behalf of the Department of Northern Affairs and National Resources.

- (VI) *Inuvik Utilities Plant, N.W.T.* — this plant comprises a 3,500 KW generating station combined with a central heating plant having a capacity of 90,000 lbs. steam per hour, a water pumping and treatment plant, and an above ground system of utilidors distributing central heat and water and sewerage services to the central portion of the townsite. An associated electrical distribution system serves the community and the airport located approximately 8 miles west of the town centre. Supply of power commenced in October 1958 and the central heating, water and sewerage systems were commissioned in 1959.
- (VII) *Frobisher Bay Utilities Plant, N.W.T.* — this plant has a generating capacity of 3,500 KW made up of a 1,500 KW gas turbine and 2,000 KW of diesel electric units. The operation also comprises a central heating plant having a capacity of 42,000,000 BTU's per hour from two package generators of 15,000,000 BTU's per hour each and a waste heat boiler associated with the gas turbine having a capacity of 12,000,000 BTU's per hour. The electrical distribution system serves the airport area and the nearby Apex Hill settlement.
- (VIII) *Field Diesel Plant, B.C.* — a 400 KW diesel plant with associated distribution system commissioned in 1959, supplying the general area of Field, B.C., the administrative centre for the Yoho National Park.
- (IX) *Fort Resolution Diesel Plant, N.W.T.* — this plant with an installed capacity of 325 KW was placed in service in February 1961 and serves the settlement of Fort Resolution.
- (X) *Fort McPherson, N.W.T.* — this operation comprises a 225 KW diesel generating plant supplying the school and hostel and a small number of government and private premises in

the settlement, together with the heating plant, water supply and sewage disposal facilities for the hostel. These facilities are owned by the Department of Northern Affairs and National Resources and are operated by the Commission on behalf of the Department.

- (XI) *Aklavik, N.W.T.* — this diesel generating plant, with a nominal capacity of 350 KW, and a local distribution system, is operated on behalf of the Department of Northern Affairs and National Resources.

ORGANIZATION AND PERSONNEL

In June 1963, Mr. R. G. Robertson resigned as Chairman of the Commission on appointment as Clerk of the Privy Council and Secretary to the Cabinet. Mr. E. A. Côté who succeeded Mr. Robertson as Deputy Minister of the Department of Northern Affairs and National Resources was appointed Chairman of the Commission effective July 2, 1963.

The cumulative increase in the Commission's activities and growth of the inventories of supplies and materials held for maintenance purposes made it advisable to strengthen administration. A Stores and Purchasing Section was created within the Commission's Head Office administration and an experienced person recruited for the position of Stores Supervisor. A stores cataloguing system developed by the Department of National Defence (Army) and used by certain other departments was adapted for use by the Commission. Activities during the year under review were concentrated on reorganizing of stores inventory and control procedures and preliminaries in relation to introduction of the new cataloguing system.

Full time employees at year end totalled 203, of which 37 were at Head Office, 2 in Edmonton and 164 at the various plants. The increase in staff is mainly due to the recruitment of operating staff to operate the new central heating and water treatment plants at Frobisher Bay and the filling of a number of vacancies at other plants.

Total payroll increased from \$1,109,129 for the previous year to \$1,224,375 of which \$305,288 represents recoverable labour expense in respect to contract work on behalf of government departments and others.

OPERATIONS

A tabulation of statistical data pertaining to the various plants appears on page 14 of this report.

SNARE RIVER HYDRO SYSTEM, N.W.T.

While the peak demand for power was slightly less than in the previous year there was a minor increase in the total energy output. Sales to mining operations was marginally less than corresponding sales in the preceding year, but deliveries for resale in the town of Yellowknife and direct sales increased by approximately 10%.

Revenue from power sales declined approximately 10% reflecting the rate reduction that had been introduced during the previous year. However, total revenue for the year was only slightly below that of the previous year owing to revenue received for rental of construction equipment. Operating and maintenance costs showed an increase due chiefly to higher salary and wage expense and the cost of reconstructing the utilidor structure serving the staff residences and office building at the Snare Rapids plant.

A 6,900 volt transmission line was constructed on behalf of the Canadian National Telecommunications to supply a radio communication station situated about 3 miles to the south of the Snare Falls plant. Supply of power to this station commenced in the latter part of the year. Because of its high load factor this comparatively small load will make a significant contribution to the revenue account.

Conversion of the Yellowknife telephone exchange to automatic operation necessitated installation of a small automatic exchange at the Snare Rapids plant with dial telephones in the various premises at the plant site; this work was arranged in conjunction with Canadian National Telecommunications who operate the Yellowknife telephone system.

Engineering studies were carried out to determine the feasibility and cost of transferring operating control of the Snare system from the Snare Rapids plant to a control centre in Yellowknife. It was determined that this would be practicable and economically attractive and consequently plans were put in hand to carry out this project during the ensuing year.

Construction of a transmission line from Yellowknife to the Settlement of Rae, some 60 miles to the west, was investigated. It was found that such a line would be an economically sound venture if the anticipated load develops at Rae and it is planned to recommend it for approval when plans for construction at Rae are confirmed.

Replacement of a pole on the transmission line a few miles north of Yellowknife which

had been damaged by lightning, proved to be a major maintenance operation due to difficulty of access. The co-operation of the federal Department of Public Works in making available a heavy tracked type vehicle was a major assistance in this work.

MAYO RIVER HYDRO PLANT, Y.T.

Peak demand was approximately 10% higher than the previous year but energy output and delivery to mining operations showed only a minor increase. Retail sales in the community of Mayo increased by 17% but this represents only a minor fraction of the total output. Reflecting the full year effect of the rate reduction of the preceding year, revenue declined approximately 2% and there was a similar minor reduction in operating and maintenance expenses.

The tunnel between the intake structure and the powerhouse was unwatered and inspected and found to be in good order with no maintenance work required.

A stop log hoist was installed at the main dam to facilitate future maintenance work on the spillway gates.

Plans were initiated for installation of a 300 KW diesel standby plant at the Mayo plant to protect supply of power to the community of Mayo during shutdowns of the hydro plant for maintenance purposes.

WHITEHORSE RAPIDS HYDRO PLANT, Y.T.

Peak demand increased slightly but there was a substantial increase in the amount of power delivered for resale within the City of Whitehorse and in direct sales, representing a recovery from abnormally low deliveries during the previous year. Consequently, revenue increased by over 25% while expenses were substantially unchanged. Since the contingency fund for this plant is short of the target figure the rate for primary power was continued at 2.1¢/KWHR to which it had been restored during the preceding year thereby permitting a substantial transfer to the Contingency Reserve Fund at year end.

The generator that had become unserviceable in the previous year was restored to service in May following major repair of the rotor at the manufacturer's factory.

FORT SMITH DIESEL PLANT, N.W.T.

Power demand increased slightly during the year and energy generated increased approximately 11%. Revenue and operating costs increased by approximately 12% and 8.5% respectively.

Activities in respect to this operation were essentially routine and maintenance of generating equipment was of prime importance due to the fact that standby reserve capacity is marginal. At year end, the possibility of increasing the standby reserve on a temporary basis at minimum expense was being studied since the prospect of hydro power becoming available in 1965 from the Taltson Development militates against further major additions of diesel equipment at this time.

The administrative facilities of the Fort Smith plant were made available to the Commission's consultant in connection with the Taltson River development and associated transmission line survey.

FORT SIMPSON DIESEL PLANT, N.W.T.

Power demand and generation of energy increased slightly but owing to a rate reduction introduced in the preceding year there was a small decline in revenue. Operating and maintenance expenses increased approximately 6% due chiefly to a heavier assessment re Head Office expense and the imposition of a charge for interest on working capital provided by other plants.

Flooding a portion of the Fort Simpson townsite in May 1963 due to the high level of the Liard River threatened the power plant and caused some damage to the distribution system. All members of the Fort Simpson operating staff are to be commended for the resourcefulness and energy put forth to protect the plant and maintain service under very difficult and, at times, hazardous conditions. A dyke erected around the power house was successful in preventing a crippling flooding of the plant and no major damage ensued. In view of this experience, a vacant lot adjacent to the plant property was purchased and plans made to construct a permanent dyke around the property that could be readily sealed in the event of a future flood threat.

Extensions of the distribution system were constructed on an emergency basis when the flood waters receded to provide power to emergency dwelling quarters.

Operation of the school/hostel central heating plant and domestic water supply system by Commission staff was continued under a contract with the Department of Northern Affairs and National Resources. This work included construction of extensions to the water distribution and sewerage system to serve one new house, a single-staff apartment building, and a fire hall.

Two members of the Fort Simpson staff were temporarily posted to Aklavik in connection

with reconstruction of the electrical distribution system at that point.

INUUVIK UTILITIES PLANT, N.W.T.

Peak electrical load and energy output increased by 12% and 15% respectively. Sales of heating energy increased by 4% but because of new loads connected late in the year as well as more severe outdoor temperatures there was a 15% increase in peak heating load. Consumption of water supplied through the domestic water treating plant was over 15% above that of the preceding year. The general increase in supply of utility services, resulted in a 15% increase in revenue and operating and maintenance expenses were substantially unchanged from the previous year. Consequently a substantial surplus was recorded, a large portion of which has been transferred to the Contingency Reserve Fund.

A 1,000 KW heavy duty diesel generating unit designed to operate on heavy fuel was commissioned in November, increasing the installed electrical capacity of the plant to 3,500 KW.

Because of increases in heating load and the use of heavy fuel for power generation by the new diesel unit, the consumption of heavy "Bunker" fuel now exceeds the capacity of one of the two 35,000 barrel storage tanks provided under the initial construction program. Consequently, a 10,000 barrel tank was installed to release the second large tank, previously used for lighter diesel fuel, for storage of heavy fuel.

A six bay vehicle storage and maintenance garage was constructed and connected to the utilidor system.

Plans were prepared for a further extension of the utilidor system to supply three additional quadruplex housing units and a new single staff apartment building that are to be constructed in 1964.

Extensions to the utilidor system comprising 1,200 feet of main utilidor and 555 feet of "utilidette" connections to serve additional housing accommodation and the Scientific Research Centre premises was constructed by contract. While the majority of this work was completed and service established to all premises as intended, the failure of certain key anchor piles to freeze-in before the onset of winter weather conditions made it necessary to defer a portion of the work until the summer of 1964.

Extensions to the electrical distribution system to serve the new premises mentioned above were constructed by Commission staff.

Temporary stores facilities were established in the cold storage warehouse, pending construction of a permanent stores and office building planned for 1964.

During the year stores records were reorganized and the new cataloguing system mentioned earlier in this report was about to be introduced.

A survey of utilidor piling was initiated consequent on a few of the lightly loaded piles supporting the utilidor structure having shown some movement. Repair work was carried out where necessary to re-establish proper levels, chief of which was a major displacement in the utilidor between the water pumping and treatment plants.

FROBISHER BAY UTILITIES PLANT, N.W.T.

Owing to the closing down of the U.S.A.F. Strategic Air Command Base in the early part of the year, coupled with generating equipment failure there was a substantial drop in power generation. Loss of the Air Base load was partially offset by connection of the Pole Vault communication station to the Commission's system. The net result was a 12% drop in power consumption but despite an 8% drop in revenue and a similar increase in production costs, a surplus was recorded for the year.

Bearing failures kept the two main diesel units out of service for the year. After a thorough investigation it was decided to ship the bedplates of these engines to the manufacturer's factory for repair and return to Frobisher via marine transport in the summer of 1964. The standby power plant associated with the Federal Building (formerly S.A.C. Composite Quarters) was operated to augment the reduced capacity of the Commission's plant pending commissioning of generating equipment in the new central generating section.

Construction work on the new Central Heating and Generating Station was resumed in April after a shutdown for the winter months. Due to construction delays the scheduled completion date of December 1963 was not achieved. The 1,000 KW heavy duty diesel unit was commissioned in February and the 1,500 KW gas turbine unit and central heating boiler equipment were put into operation in March. Supply of heat to the new water treatment plant and the new hospital commenced in March.

While the plant was substantially completed in March minor clean up work remains to be done in the summer of 1964. Final figures were not available at year end but it is evident that the total cost will be substantially below

the original estimate. It is planned that the Commission will undertake operation of the domestic water treatment plant on behalf of the Department of Northern Affairs and National Resources upon its acceptance from the contractor. Operation and maintenance of the utilidor connecting the power plant and adjacent water treatment plant to the new hospital will also be undertaken by the Commission.

Studies have shown that a substantial saving in overall costs can be realized by extending central heat supply to the Federal Building whereupon the Federal Building's own heating plant could be closed down and placed on cold standby. It is therefore planned to construct the required pipe line and heat exchanger facilities in 1964.

FIELD DIESEL PLANT, B.C.

Demand increased approximately 7% and power generation and sales were approximately 4% higher than for the preceding year. Power rates for the initial blocks of consumption were reduced by 1¢/KWHR early in the year and consequently, revenue for the year was only slightly higher than for the previous year. As in previous years, maintenance expense was exceptionally low and it must be recognized that accumulated surplus represents, in part, deferred maintenance expense that can be expected to become a future charge against the operating account. However, the foreseeable results of the years under review indicated that a further rate reduction could be considered in the ensuing year.

During the year an underground service with an outdoor surface mounted transformer vault was constructed to supply a new automobile service station situated adjacent to the Trans-Canada Highway.

FORT RESOLUTION DIESEL PLANT, N.W.T.

Peak demand was unchanged but generation and sales of energy increased over 15% with a corresponding increase in revenue. However, operating and maintenance expenses also increased leaving only a small surplus for the year.

During the year a trailer-type dwelling that had been in storage at Yellowknife was moved to Fort Resolution to provide temporary living accommodation for the Plant Superintendent pending provision of permanent accommodation.

FORT McPHERSON, N.W.T.

Operation of the diesel power plant serving all government premises and a small number of private consumers, the hostel heating plant,

and the domestic water supply and sewerage disposal system, continued under a contract with the Department of Northern Affairs and National Resources. This work includes maintenance of all mechanical/electrical equipment in government owned premises, operation of the central fuel storage/distribution system, maintenance of the utilidor structures associated with the water/sewerage system, and vehicle maintenance. Provision of an operator on a repayment basis to operate the power and heating equipment at Old Crow, Y.T. was continued, pending arrangements by the Yukon Territorial Government, who have assumed responsibility in respect to this settlement, to supply their own staff.

All services at Fort McPherson are provided at cost, including general overhead, under the terms of an operating contract with the Department of Northern Affairs and National Resources.

Plans were put in hand during the year with a view to establishing a Commission owned generating plant at this location in anticipation of increased demand arising from proposed construction of a new school and housing accommodation.

AKLAVIK, N.W.T.

Operations at Aklavik were continued on an agency basis on behalf of the Department of Northern Affairs and National Resources.

Reconstruction of the electrical distribution system was commenced but could not be completed before the onset of severe winter weather. A detailed survey of the wiring of consumers premises throughout the settlement was undertaken and a report submitted to the Commissioner of the Northwest Territories.

A 3,000 barrel fuel oil storage tank was erected and put into service to replace a number of small tanks and off-premises storage facilities. Work was carried out in connection with the installation of diesel generating equipment of small capacity that had been acquired with this plant as "loose equipment" thus providing a more flexible arrangement for this settlement.

TALTSON RIVER HYDRO ELECTRIC DEVELOPMENT, N.W.T.

Governor-General in Council approval of the undertaking of the Taltson River Hydro Electric Development including transmission line facilities, at an estimated cost of \$9,120,000 was granted in July. Detailed design work was commenced by engineering consultants forthwith.

This development will comprise an 18,000 KW single unit hydro plant located at the Twin Gorges on the Taltson River, approximately 35 miles northeast of Fort Smith, and a 170 mile 115 KV transmission line via Fort Smith to a terminal at Pine Point Mines Limited property. A substation will be provided at Fort Smith to supply that area, and the new community of Pine Point will be supplied from the terminal substation at the Pine Point mining property. The generating plant will be remotely controlled from a control centre to be located in Fort Smith. The project is scheduled for completion in October 1965, which will coincide with commencement of production by Pine Point Mines Limited.

Tenders for construction of the generating plant and associated facilities, and access roads were received in November and a contract was awarded to McNamara Construction Western Limited of Edmonton. Construction of an ice bridge across the Slave River near Fort Smith and the access road to the site commenced in December. While progress was impeded by unusually mild weather in the fall of the year and moreso in February, the road was successfully completed and all equipment and materials scheduled for winter transport were on site before the road deteriorated in the spring of the year. Construction work at the site began in March. By year end, orders had been placed for major plant equipment and transmission line towers, and survey of the transmission line route was well advanced. Arrangements for clearing of the transmission line right-of-way from Fort Smith to the Pine Point Terminal were made with the Departments of Northern Affairs and National Resources and Public Works. Since about 90% of the transmission line route between Fort Smith and Pine Point is generally parallel to or coincident with the route of the projected Hay River — Fort Smith highway, the transmission line clearing work has been combined with the clearing of the highway right-of-way.

THE ATLANTIC PROVINCES POWER DEVELOPMENT ACT

The Atlantic Provinces Power Development Act (1958) provides for agreements between the Government of Canada and the Governments of the Atlantic Provinces, and for further agreements covering specific projects between the Northern Canada Power Commission and the respective Provincial Power Commissions whereby assistance may be provided in respect to the generation and transmission of electric power. Such assistance may be in the form of long term loans to cover the costs of constructing thermal power plants and high voltage transmission lines and the payment of a sub-

vention on coal mined and used within the Atlantic Provinces for generating electricity. Loans in connection with thermal power plants are repayable over the 30 year period following completion and similarly, loans relating to transmission lines are repayable over 40 years. The Northern Canada Power Commission is responsible for financing, constructing and equipping power plants and high voltage transmission lines and the Dominion Coal Board administers the coal subvention payments.

Particulars of transactions relating to transmission line facilities and thermal power plants are provided in the financial section of this report, and summarized in Exhibit VII, the final financial statement of this report.

FINANCIAL

Funds are advanced by the Minister of Finance to cover the construction of power plants and on completion, each plant is operated on a self-sustaining and separately accountable basis. Funds advanced for capital purposes are repayable by amortization and profits or losses are not transferable between plants. Power rates are established in accordance with Section 10 of the Act; charges shown as depreciation include principal repayments, depreciation at $3\frac{1}{2}\%$ per annum on assets acquired under the provisions of Section 22 of the Act and depreciation at 10% per annum on furniture and equipment in the Edmonton Office and at Head Office, Ottawa. The Commission's fiscal year is the 12 month period ending March 31.

Snare River Hydro System, N.W.T.

The capital debt relating to Snare Rapids and Snare Falls plants is repayable with interest at $4\frac{1}{2}\%$ per annum over the 30 year period ending March 31, 1991. During the current year, amortization totalling \$386,163.93 was paid to the Minister of Finance of which \$124,517.76 was principal and \$261,646.17 was interest which left a balance of \$6,218,419.61 outstanding March 31, 1964.

Net income for the year totalled \$64,561.72 and an allocation of \$1,000.00 was made to the Contingency Reserve Fund to increase that account to its target total of \$557,000.00. At year end, the accumulated surplus stood at \$330,803.39.

Mayo River Hydro Plant, Y.T.

The capital debt relating to the Mayo River Plant is made up of \$2,266,548.36 repayable with interest at $3\frac{1}{2}\%$ per annum over the 20 year period ending March 31, 1973 and \$303,240.42 with interest at $3\frac{3}{4}\%$ per annum over the 15 year period ending March 31, 1973.

Amortization totalling \$332,890.64 was paid to the Minister of Finance as of March 31, 1964 of which \$243,324.25 was principal and \$89,566.39 was interest.

Net income was \$24,830.96 for the year, the accumulated surplus was \$275,646.04 at year end and the Contingency Reserve Fund remained at its target total of \$400,000.00.

Whitehorse Rapids Power Plant, Y.T.

The capital debt relating to the Whitehorse Plant is repayable with interest at 4% per annum over the 40 year period ending March 31, 1999. Amortization totalling \$363,769.13 was paid to the Minister of Finance as of March 31, 1964 of which \$88,639.17 was principal and \$275,129.96 was interest which left a balance of \$6,789,609.94 outstanding at year end.

The net income was \$100,835.81 for the year and an allocation of \$100,000.00 was made to the Contingency Reserve Fund to increase that account to \$312,955.25. The accumulated surplus was \$54,981.62 at year end.

Fort Smith Diesel Plant, N.W.T.

As of March 31, 1964, amortization totalling \$26,774.23 was paid to the Minister of Finance of which \$8,415.35 was principal and \$18,358.88 was interest. The outstanding capital debt relating to the Fort Smith plant thereby totalled \$357,512.32 which is made up of:

- (1) \$140,502.16 to be repaid with interest at 5% per annum over the 20 year period ending March 31, 1982;
- (2) \$167,746.72 to be repaid with interest at 5% per annum over the 30 year period ending March 31, 1991;
- (3) \$49,263.44 to be repaid with interest at $5\frac{1}{4}\%$ per annum over the 30 year period ending March 31, 1993.

The net income for the year was \$28,638.98 and surplus totalling \$24,148.56 was transferred to cover capital assets acquired during 1962-1963 under authority of Section 22 of the Act which reduced the accumulated surplus to \$62,420.96 at year end. The Contingency Reserve Fund remained at its target total of \$45,000.00.

Fort Simpson Diesel Plant, N.W.T.

During the year amortization totalling \$20,620.85 was paid to the Minister of Finance of which \$8,890.79 was principal and \$11,730.06 was interest. Accordingly, at year end, the outstanding capital debt relating to the Fort Simpson plant totalled \$255,672.58 as follows:

- (1) \$111,423.29 to be repaid with interest at 3½% per annum over the 20 year period ending March 31, 1977;
- (2) \$45,722.42 to be repaid with interest at 5% per annum over the 30 year period ending March 31, 1991;
- (3) \$98,526.87 to be repaid with interest at 5½% per annum over the 30 year period ending March 31, 1993.

The net income for the year was \$4,613.69. An allocation of \$1,000.00 was made to the Contingency Reserve Fund to increase that account to its target total of \$22,000.00 and surplus of \$30,629.45 was transferred to cover capital assets acquired during 1962-1963 under authority of Section 22 of the Act which reduced the accumulated surplus to \$18,671.86 at year end.

Inuvik Utilities Plant, N.W.T.

The Inuvik Utilities Plant was declared completed as of March 31, 1961 at a total cost of \$8,027,089.17 which includes an interest accrual of \$95,714.62 in relation to the construction period. Of this total, \$7,003,914.96 represents the cost of the central heating, water, sewerage and fire alarm systems which was borne by the Department of Northern Affairs and National Resources. The power plant is operated on a self-supporting basis and the original capital investment of \$1,023,174.21 is repayable to the Minister of Finance with interest at the rate of 4½% per annum over the 30 year period ending March 31, 1991. During 1962-1963, the capital debt relating to the power plant was increased by \$35,000.00 repayable at 5½% per annum over the 30 year period ending March 31, 1993 and during the current year, there were further increases of \$360,000.00 and \$57,000.00 repayable with interest at 5½% and 5¼% per annum respectively over the 30 year period ending March 31, 1994. In addition, \$350,000.00 was advanced by the Minister of Finance during the current year under the provisions of P.C. 1963-15/1141 dated August 1, 1963 to cover extensions to the utilidor system to provide services to new federal buildings constructed by the Department of Public Works during 1963. Amortization totalling \$64,202.98 was paid to the Minister of Finance as of March 31, 1964 of which \$19,177.00 was principal and \$45,025.98 was interest to leave a principal balance of \$1,770,988.26 outstanding at year end.

The net income was \$119,529.59 for the year and an allocation of \$100,000.00 was made to the Contingency Reserve Fund thereby increasing that account to \$240,000.00 with an accumulated surplus of \$25,626.33 at year end.

Frobisher Bay Diesel Plant, N.W.T.

The Commission leases a portion of the existing Frobisher Bay and Distribution System from the Department of Transport at an annual rental of \$23,500.00 and since 1960 has provided additional generating equipment, staff-houses and improvement/extensions to the distribution system. The related capital debt is repayable with interest at 5¼% per annum over the 30 year period ending March 31, 1991 and as of March 31, 1964, amortization totalling \$40,241.90 was paid to the Minister of Finance of which \$8,410.62 was principal and \$31,831.28 was interest to leave a principal balance of \$545,176.85 outstanding.

The net income was \$29,316.34 for the year, the Contingency Reserve Fund remained at its target total of \$200,000.00 and the accumulated surplus was \$190,400.19 at year end.

The new permanent Power and Central Heating Plant as authorized by P.C. 1962-764 dated May 28, 1962 at an estimated cost of \$3,000,000.00 is scheduled for completion during the summer of 1964. At year end, a total of \$2,900,000.00 had been advanced by the Minister of Finance in respect to this project and on completion, the total cost plus the interest accrual during the construction period is repayable with interest at 5% per annum over a 30 year period. At year end, interest totalling \$74,965.74 had accrued on advances and the capital debt relating to the new project totalled \$2,974,965.74.

Field Diesel Plant, B.C.

The capital debt relating to the Field Plant is repayable with interest at 5% per annum over the 30 year period ending March 31, 1990. As of March 31, 1964, amortization totalling \$13,010.29 was paid to the Minister of Finance of which \$3,484.79 was principal and \$9,525.50 was interest to leave a balance of \$187,025.28 outstanding.

Income and expense increased approximately 4% and 7% respectively over the previous year to produce a net income of \$14,971.37 for the year. The Contingency Reserve Fund remained at its target total of \$12,000.00 and the accumulated surplus was \$25,996.52 at year end.

Fort Resolution Diesel Plant, N.W.T.

The capital debt relating to the Fort Resolution Plant is repayable with interest at 5% per annum over the 30 year period ending March 31, 1991. As of March 31, 1964, amortization totalling \$8,131.43 was paid to the Minister of Finance of which \$2,074.28 was prin-

cial and \$6,057.15 was interest, to leave a balance of \$119,068.79 outstanding.

Income and expense increased approximately 11% and 24% respectively over the previous year to produce a net income of \$1,539.42 for the year. The Contingency Reserve Fund remained at its target total of \$8,000.00 and the accumulated surplus was \$3,059.28 at year end.

Taltson River Hydro-Electric Development, N.W.T.

The financing of this project during the initial stages of construction was with Commission funds and reimbursement, in part, was provided by an advance of \$500,000.00 from the Minister of Finance on March 31, 1964. On completion, the capital cost of the project, including an interest accrual on funds advanced during the construction period, is to be repaid with interest at 5½% per annum over a period of 40 years. Completion of the project is presently scheduled for the fall of 1965.

Moose Factory Utilities Plant, Ont.

An advance of \$65,000.00 was provided by the Minister of Finance on March 31, 1964 for the acquisition of capital equipment required in connection with the Commission's operation of the Moose Factory Utilities Plant which is to be leased from the Department of National Health and Welfare effective 1 April 1964 under the provisions of P.C. 1963-6/805 dated May 30, 1963. For statement purposes, this advance is recorded as a 1963-64 liability of the Commission's Head Office.

Contract Work

The Commission operated the Aklavik, N.W.T. Power Plant, the Fort McPherson, N.W.T. Power and Heating Plant and the Fort Simpson, N.W.T. Central Heating and Water Treatment Plants on behalf of the Department of Northern Affairs and National Resources. In addition, construction and miscellaneous electrical/mechanical maintenance services were provided to government departments and other customers on a recoverable basis at cost with a surcharge on labour expense to offset general overhead. The Statement of Income and Expense (Exhibit V — Financial Statements) shows totals of the income and expense involved under "Contract Income" and the surcharge totalling \$124,703.68 shown as Head Office Assessment was derived from the following operations:

Snare River, N.W.T.	\$ 8,998.73
Fort Smith, N.W.T.	270.81
Mayo, Y.T.	7.77

Fort Simpson, N.W.T.	31,472.97
Inuvik, N.W.T.	38,141.65
Frobisher Bay, N.W.T.	425.46
Fort McPherson, N.W.T.	31,110.15
Field, B.C.	290.77
Fort Resolution, N.W.T.	18.22
Aklavik, N.W.T.	12,967.15
Head Office (Ottawa)	1,000.00
	<hr/>
	\$124,703.68
	<hr/>

An advance of \$60,000.00 was provided by the Minister of Finance on March 31, 1964 to cover the acquisition of capital equipment for the power plant at Aklavik, N.W.T. which is owned by the Department of Northern Affairs and National Resources. It has since been established that the equipment involved will be paid for by the Department and the \$60,000.00 advance will therefore be repaid to the Minister of Finance in the new year.

The Atlantic Provinces Power Development Act

During the year, a total of \$7,033,546.36 was advanced to cover work performed in relation to approved projects in the Province of New Brunswick. One of the projects involved was declared completed on July 24, 1963 and, of all projects approved to date, only five in the Province of New Brunswick had not been completed at year end.

In addition, repayments totalling \$1,066,017.35 were received in connection with completed projects of which \$583,388.94 was from The New Brunswick Electric Power Commission, \$30,228.08 was from the Newfoundland Power Commission and \$452,400.33 was from The Nova Scotia Power Commission. The New Brunswick Electric Power Commission repaid amortization due March 31, 1964 (principal \$100,337.63 and interest — \$483,051.31) on ten completed projects. The Newfoundland Power Commission repaid amortization due March 31, 1964 (principal — \$3,904.15 and interest — \$26,323.92) on one completed project and The Nova Scotia Power Commission repaid amortization due March 31, 1964 (principal — \$86,573.18 and interest — \$365,827.15) on seventeen completed projects. At year end, all due debt retirement payments had been received and a total of \$30,429,013.31 remained outstanding of which \$22,701,539.56 related to New Brunswick projects, \$497,504.03 related to a Newfoundland project and \$7,229,969.72 related to Nova Scotia projects.

A complete summary showing advances, interest accruals and repayments of principal

and interest, by projects, is provided as Exhibit VII in the Financial Statements of this report.

FINANCIAL STATEMENTS

Included in this report is the Consolidated Balance Sheet of the Commission as at March 31, 1964 certified by the Auditor General of Canada which reflects the financial position of the Commission's Accounts (refer Exhibits I-III inclusive).

Also included, to provide detail in relation to the various plants and projects involved, are

the Commission's supplementary statements as follows :

Exhibit IV — Assets and Liabilities by Plants and Projects as at March 31, 1964.

Exhibit V — Income and Expense by Plants for the year ended March 31, 1964.

Exhibit VI — Earned Surplus by Plants for the year ended March 31, 1964.

Exhibit VII — Summary of Projects authorized under The Atlantic Provinces Power Development Act, as at March 31, 1964.

STATISTICAL DATA - 1963-1964

PLANT	NET PEAK LOAD (KILOWATTS)	GROSS GENERATION (KWH X 1000)	CONSUMPTION BY NCPC (KWH X 1000)	SALES (KWH X 1000)
HYDRO				
SNARE RIVER, N.W.T.	12900 (13400)	80327 (78414)	2430	
Industrial - primary	—	—	—	38901 (39685)
secondary	—	—	—	25053 (125136)
Wholesale	—	—	—	9580 (8977)
Retail	—	—	—	426 (9)
MAYO RIVER, Y.T.	5455 (4951)	34760 (34066)	1363	
Industrial - primary	—	—	—	15912 (15903)
secondary	—	—	—	12961 (13616)
Wholesale	—	—	—	73 (72)
Retail	—	—	—	839 (717)
WHITEHORSE RAPIDS, Y.T.	9600 (9400)	37372 (31111)	1225	
Wholesale	—	—	—	9714 (4816)
Primary	—	—	—	12876 (10667)
Secondary	—	—	—	12821 (13826)
THERMAL				
FORT SMITH, N.W.T.	1240 (1200)	5669 (5007)	288	4980 (4589)
FORT SIMPSON, N.W.T.	455 (445)	1967 (1848)	59	1584 (1562)
INUVIK, N.W.T.	—			
Electricity	1745 (1560)	8596 (7475)	1132	6611 (5325)
Heat	49000 (39000) lbs. steam/hr.	—	—	164 x 10 ⁹ (144 x 10 ⁹) B.T.U.
Water	56,751,000 (49,066,000) gallons per annum.			
FROBISHER BAY, N.W.T.	1610 (1620)	7882 (8945)	201	7840 (8434)
FIELD, B.C.	175 (164)	860 (768)	15	764 (673)
FORT RESOLUTION, N.W.T.	123 (123)	459 (396)	21	421 (354)

() - 1962-1963

Ottawa, June 26, 1964.

The Honourable Arthur Laing,
Minister of Northern Affairs and National Resources,
Ottawa.

Sir,

I have examined the accounts and financial statements of Northern Canada Power Commission for the year ended March 31, 1964. In compliance with the requirements of section 87 of the Financial Administration Act, I report that, in my opinion :

- (a) proper books of account have been kept by the Commission;
- (b) the financial statements of the Commission
 - (i) were prepared on a basis consistent with that of the preceding year and are in agreement with the books of account,
 - (ii) in the case of the balance sheet give a true and fair view of the state of the Commission's affairs as at the end of the financial year, and
 - (iii) in the case of the statement of income and expense, give a true and fair view of the income and expense of the Commission for the financial year; and
- (c) the transactions of the Commission that have come under my notice have been within the powers of the Commission under the Financial Administration Act and any other Act applicable to the Commission.

Your faithfully,

A. M. Henderson,
Auditor General of Canada.

NORTHERN CANADA

(Established by the Northern Development Act)

Balance Sheet

(with comparative figures for 1963)

Assets

Current Assets :	1964	1963
Cash	\$ 1,150,074	\$ 8,777
Accounts receivable	1,318,634	1,201,400
Inventories of maintenance and operating supplies, at cost	1,122,833	708,004
TOTAL Current Assets	\$ 3,591,541	\$ 1,918,181
Bonds held as Consumers' Security Deposits	\$ 75,000	\$ 75,000
Investment in Government of Canada Bonds, at amortized cost, including accrued interest (market value \$1,009,625)	\$ 1,015,331	\$ 1,013,854
Capital Assets, at cost :		
Power plants	\$19,482,866	\$19,204,234
Transmission and distribution facilities	3,343,181	3,312,634
Staff dwellings, warehouses and miscellaneous buildings ..	944,038	899,726
Communication, transportation and other equipment	556,872	552,836
Projects under construction	3,141,797	375,147
	\$27,468,754	\$24,344,577
Less: Accumulated depreciation (equivalent to repayments of principal of advances from the Government of Canada)	5,800,330	5,294,938
	\$21,668,424	\$19,049,639
Central heating, water and sewage and fire alarm system at Inuvik, Northwest Territories	7,003,445	7,003,445
TOTAL Capital Assets	\$28,671,869	\$26,053,084
	\$33,353,741	\$29,060,119

Certified correct :

(Sgd.) T. A. Stott
Secretary-Comptroller

Approved :

(Sgd.) E. A. Côté
Chairman

Note: The Commission administers loans, which amounted to \$30,429,014 as at March 31, 1964, made by the Government of Canada pursuant to agreements entered into under the Atlantic Provinces Power Development Act.

POWER COMMISSION

(Canada Power Commission Act)

March 31, 1964

at March 31, 1963)

Liabilities		
Current Liabilities :	1964	1963
Accounts payable	\$ 616,429	\$ 248,156
Contractors' holdbacks	103,376	16,234
TOTAL Current Liabilities	\$ 719,805	\$ 264,390
Consumers' Security Deposits	\$ 85,599	\$ 83,446
Proprietary Equity of the Government of Canada :		
Advances —		
Under section 14 of the Act — for investigation of projects	\$ 50,000	\$ 50,000
Under section 15 of the Act — for capital expenditures, including accrued interest	22,413,228	18,959,909
Equity represented by cost of central heating, water and sewage and five alarm systems at Inuvik, Northwest Territories, provided by parliamentary appropriation (Northern Affairs and National Resources Vote 119, Special Appropriation Act, 1963)	7,003,445	7,003,445
Reserve for contingencies pursuant to section 10 of the Act ..	1,796,955	1,601,058
Reserve for extension, expansion and improvements, equiv- alent to expenditures incurred on acquisition of capital assets, as permitted under section 22 of the Act	297,103	242,325
Surplus, per Statement of Surplus	987,606	855,546
	<u>\$32,548,337</u>	<u>\$28,712,283</u>
	<u>\$33,353,741</u>	<u>\$29,060,119</u>

I have examined the above Balance Sheet and the related Statement of Income and Expense and have reported thereon under date of June 26, 1964 to the Minister of Northern Affairs and National Resources.

A. M. Henderson
Auditor General of Canada

NORTHERN CANADA POWER COMMISSION

Statement of Income and Expense for the year ended March 31, 1964

(with comparative figures for the year ended March 31, 1963)

Income

	1964	1963
Sales of power :		
Mining	\$ 812,530	\$ 904,285
Commercial	1,652,174	1,515,310
Domestic	418,686	378,738
	<hr/>	<hr/>
	\$2,883,390	\$2,798,333
Income arising from construction, maintenance and operation of facilities for government departments and others	689,166	567,824
Sales of steam and water heat	411,430	364,456
Miscellaneous	171,121	123,274
	<hr/>	<hr/>
	\$4,155,107	\$3,853,887

Expense

Operating :		
Salaries and wages	\$1,006,371	\$ 905,366
Fuel oil and lubricants	602,286	598,542
Materials and supplies	235,648	229,577
Maintenance and improvements to structures and equipment	120,295	132,898
Employees' board and accommodation (net)	90,784	74,303
Travel and removal	62,743	49,499
Generating plant and line rental	31,656	30,485
Maintenance of trucks, tractors, etc.	28,393	33,388
Charter of aircraft	13,275	12,253
Insurance	11,805	10,985
Miscellaneous	48,582	57,338
	<hr/>	<hr/>
	\$2,251,838	\$2,134,634
Administrative :		
Salaries	\$ 218,004	\$ 203,763
Office rent	14,308	13,257
Miscellaneous	12,077	18,836
	<hr/>	<hr/>
	244,389	\$ 235,856
Interest on advances from the Government of Canada	748,871	\$ 757,377
Depreciation equivalent to repayment of principal of advances from the Government of Canada	521,171	\$ 498,488
	<hr/>	<hr/>
	\$3,766,269	\$3,626,355
	<hr/>	<hr/>
NET INCOME	\$ 388,838	\$ 227,532

NORTHERN CANADA POWER COMMISSION

Statement of Surplus for the year ended March 31, 1964

Balance as at April 1, 1963		\$855,546
Deduct :		
Transfer to reserve for contingencies	\$202,000	
Transfer to reserve for extension, expansion and improvements equivalent to expenditures incurred on acquisition of capital assets, as permitted under section 22 of the Act	54,778	
		<u>256,778</u>
		\$598,768
Add : Net income for the year, per Statement of Income and Expense		\$388,838
Balance as at March 31, 1964		<u><u>\$987,606</u></u>

NORTHERN CANADA POWER COMMISSION **Assets and Liabilities, by Plants and Projects, as at March 31, 1964**

	SNARE RIVER PLANTS	FORT SMITH PLANT	MAYO PLANT	FORT SIMPSON PLANT	WHITEHORSE PLANT	INUVIK PLANT	FROBISHER BAY PLANT	FIELD PLANT	FORT RESOLUTION PLANT	TALTON RIVER PROJECT	EDMONTON AND HEAD CONTRACT OFFICES WORK	TOTAL
Current Assets :												
Cash :												
Capital Account	\$ (5,128)	\$ (2,575)	\$ 40,850	\$ (9,234)	\$ 100,553	\$ 207,240	\$ 924,498	\$ 473	\$ (825)	\$ (338,300)	\$ 66,922	\$ 1,044,474
Special Account	368,711	(43,439)	366,871	(73,571)	157,165	(472,141)	(396,614)	13,691	(23,259)	—	716,067	105,600
Accounts Receivable	124,283	88,546	37,178	46,153	57,641	370,437	102,765	14,464	17,113	—	10,969	1,318,634
Inventories of maintenance and operating supplies, at cost	52,711	51,720	18,673	58,563	14,212	280,603	558,420	2,802	12,806	—	13,352	1,122,833
Total Current Assets	540,577	94,252	463,572	21,911	329,571	386,139	1,189,069	31,430	5,835	(338,300)	807,310	3,591,541
Bonds held as Consumers' Security Deposits	50,000	—	25,000	—	—	—	—	—	—	—	—	75,000
Investment in Government of Canada Bonds, at amortized cost, including accrued in- terest (market value \$1,009,625)	352,594	28,537	253,665	13,317	138,919	88,782	126,833	7,610	5,074	—	—	1,015,331
Capital Assets, at cost :												
Power Plants	6,864,390	421,704	3,772,985	254,047	6,746,866	868,423	337,211	116,085	101,155	—	—	19,482,866
Transmission and distribution facilities	1,788,640	142,496	572,913	60,532	251,117	414,591	65,245	28,153	19,494	—	—	3,343,181
Staff dwellings, warehouses and miscellaneous buildings	329,030	28,516	264,757	18,980	77,881	44,312	134,724	45,838	—	—	—	944,038
Communication, transporta- tion and other equipment	286,480	12,966	99,576	16,101	20,839	21,219	48,274	8,844	3,973	—	38,600	556,872
Projects under construction	2,424	—	—	—	—	289,192	2,031,881	—	—	838,300	—	3,141,797
Less : Accumulated depreci- ation (equivalent to repay- ment of principal of ad- vances from the Govern- ment of Canada)	9,270,964	605,682	4,710,231	349,660	7,096,703	1,617,737	2,617,335	198,920	124,622	838,300	38,600	27,468,754
Central heating, water and sewerage and fire alarm systems at Inuvik, North- west Territories	2,957,956	110,239	2,181,293	39,316	407,646	53,989	21,691	12,367	4,728	—	11,105	5,800,330
Total Capital Assets	6,313,008	495,443	2,528,938	310,344	6,689,057	1,563,748	2,595,644	186,553	119,894	838,300	27,495	21,668,424
Total Capital Assets	\$7,256,179	\$618,232	\$3,271,175	\$345,572	\$7,157,547	\$9,042,114	\$3,911,546	\$225,593	\$130,803	\$500,000	\$834,805	\$33,353,741

NORTHERN CANADA POWER COMMISSION **Assets and Liabilities, by Plants and Projects, as at March 31, 1964**

	SNARE RIVER PLANTS	FORT SMITH PLANT	MAYO PLANT	FORT SIMPSON PLANT	WHITEHORSE PLANT	INUVIK PLANT	FROBISHER BAY PLANT	FIELD PLANT	FORT RESOLUTION PLANT	TALTON EDMONTON RIVER AND HEAD PROJECT OFFICES	CONTRACT WORK	TOTAL
Current Liabilities:												
Accounts payable	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —	\$616,429	\$ —	\$ 616,429
Contractors' Holdbacks	—	—	—	—	—	—	—	—	—	103,376	—	103,376
Total Current Liabilities	—	—	—	—	—	—	—	—	—	719,805	—	719,805
Consumers' Security Deposits	50,000	4,060	25,740	1,320	—	2,055	1,003	571	675	—	175	85,599
Proprietary Equity of the Government of Canada												
Advances												
Under section 14 of the Act — for investigation of projects	—	—	—	—	—	—	—	—	—	50,000	—	50,000
Under section 15 of the Act — for capital ex- penditures, including ac- quired interest	6,218,420	357,512	2,569,789	255,672	6,789,610	1,770,988	3,520,143	187,025	119,069	65,000	60,000	22,413,228
Equity represented by cost of central heating, water and sewerage and fire alarm systems at Inuvik, Northwest Territories, pro- vided by parliamentary appropriation (Northern Affairs and National Re- sources Vote 119, Special Appropriation Act, 1963)	—	—	—	—	—	7,003,445	—	—	—	—	—	7,003,445
Reserve for contingencies pursuant to section 10 of the Act	557,000	45,000	400,000	22,000	312,955	240,000	200,000	12,000	8,000	—	—	1,796,955
Reserve for extension, ex- pansion and improvements, equivalent to expenditures incurred on acquisition of capital assets, as permitted under section 22 of the Act	99,956	149,239	—	47,908	—	—	—	—	—	—	—	297,103
Surplus, per Statement of Surplus	330,803	62,421	275,646	18,672	54,982	25,626	190,400	25,997	3,059	—	—	987,606
	7,206,179	614,172	3,245,435	344,252	7,157,547	9,040,059	3,910,543	225,022	130,128	500,000	60,000	32,548,337
	\$7,256,179	\$618,232	\$3,271,175	\$345,572	\$7,157,547	\$9,042,114	\$3,911,546	\$225,593	\$130,803	\$500,000	\$60,175	\$33,353,741

NORTHERN CANADA POWER COMMISSION **Statement of Income and Expense for the year ended March 31, 1964**

	SNARE RIVER PLANTS	FORT SMITH PLANT	MAYO PLANT	FORT SIMPSON PLANT	WHITEHORSE PLANT	INUUVIK PLANT	FROBISHER BAY PLANT	FIELD PLANT	RESOLUTION AND HEAD CONTRACT OFFICES	EDMONTON PLANT	WORK	TOTAL
INCOME												
Sales of power:												
Mining	\$432,453	\$ —	\$380,077	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —	\$ 812,530
Commercial	134,616	143,416	30,406	96,829	532,094	245,364	356,670	43,919	44,008	—	24,852	1,652,174
Domestic	—	123,799	13,713	35,871	—	118,414	71,260	18,106	9,084	—	28,439	418,686
Income arising from construction, maintenance and operation of facilities for Governments Departments and others	—	—	—	—	—	—	—	—	—	—	689,166	689,166
Sales of steam and water heat	—	—	—	—	—	411,430	—	—	—	—	—	411,430
Miscellaneous	73,812	2,753	28,004	(1,743)	19,154	30,596	14,098	2,916	46	4,002	(2,517)	171,121
	\$640,881	\$269,968	\$452,200	\$130,957	\$551,248	\$805,804	\$442,028	\$64,941	\$53,138	\$4,002	\$739,940	\$4,155,107
EXPENSE												
Operating:												
Salaries and wages	93,702	74,813	51,836	49,536	57,585	216,697	115,762	18,608	22,544	—	305,288	1,006,371
Fuel oil and lubricants	463	85,419	177	25,487	216	281,222	149,289	11,202	8,519	—	40,292	602,286
Materials and supplies	1,920	1,334	650	1,594	784	9,144	3,166	461	794	—	215,801	235,648
Maintenance and improvements to structures and equipment	34,230	12,754	13,853	7,859	3,799	15,483	11,747	546	4,508	—	15,516	120,235
Employees' Board and accommodation (net)	6,101	8,646	2,305	4,155	2,298	32,064	31,728	1,225	1,070	—	1,192	90,784
Travel and removal	4,667	3,160	3,787	2,630	1,492	28,398	7,090	97	1,040	—	10,382	62,743
Generating plant and line rental	2,400	—	52	—	—	618	23,500	—	—	—	5,086	31,656
Maintenance of trucks, tractors, etc.	2,846	644	2,381	1,296	710	11,783	4,051	278	464	—	3,940	28,393
Charter of Aircraft	11,856	—	—	—	—	105	—	—	—	—	1,314	13,275
Insurance	703	2,022	662	1,048	414	1,816	3,843	472	612	—	213	11,805
Miscellaneous	5,429	3,838	2,315	3,272	2,380	9,045	3,994	882	1,215	—	16,212	48,582
Administrative:												
Salaries	—	—	—	—	—	—	—	—	—	218,004	—	218,004
Office rent	—	—	—	—	—	—	—	—	—	14,308	—	14,308
Miscellaneous	—	—	—	—	—	—	—	—	—	12,077	—	12,077
Head Office Assessment	22,340	16,700	16,461	7,169	16,965	15,697	18,301	3,186	2,702	(244,225)	124,704	—
Interest on advances from the Government of Canada	261,646	18,359	89,566	11,730	275,130	45,026	31,831	9,526	6,057	—	—	748,871
Depreciation equivalent to repayment of principal of advances from the Government of Canada	128,016	13,639	243,324	10,568	88,639	19,177	8,411	3,485	2,074	3,838	—	521,171
	\$576,319	\$241,328	\$427,369	\$126,344	\$450,412	\$686,275	\$412,713	\$49,968	\$51,599	\$4,002	\$739,940	\$3,766,269
Net income	\$ 64,562	\$ 28,640	\$ 24,831	\$ 4,613	\$100,836	\$119,529	\$ 29,315	\$14,973	\$ 1,539	—	—	\$ 388,838

NORTHERN CANADA POWER COMMISSION

Earned Surplus, by Plants, for the year ended March 31, 1964

	SNARE RIVER PLANTS	FORT SMITH PLANT	MAYO PLANT	FORT SIMPSON PLANT	WHITEHORSE PLANT	INUUVIK PLANT	PROBISHER BAY PLANT	FIELD PLANT	FORT RESOLUTION PLANT	TOTAL
Balance as at April 1, 1963	\$267,241	\$57,930	\$250,815	\$45,688	\$ 54,146	\$ 6,097	\$161,085	\$11,024	\$1,520	\$855,546
Deduct :										
Transfer to Reserve for Contingencies	1,000	—	—	1,000	100,000	100,000	—	—	—	202,000
Transfer to Reserve for Extension, Expansion and Improvements, equivalent to expendi- tures incurred on acquisition of capital assets, as permitted under section 22 of the Act	—	24,149	—	30,629	—	—	—	—	—	54,778
	\$ 1,000	\$24,149	—	31,629	100,000	100,000	—	—	—	256,778
	\$266,241	\$33,781	\$250,815	14,059	(45,854)	(93,903)	161,085	11,024	1,520	598,768
Add :										
Net income for the year, per Statement of Income and Expense	64,562	28,640	24,831	4,613	100,836	119,529	29,315	14,973	1,539	388,838
Balance as at March 31, 1964	\$330,803	\$62,421	\$275,646	\$18,672	\$ 54,982	\$ 25,626	\$190,400	\$25,997	\$3,059	\$987,606

NORTHERN CANADA POWER COMMISSION

Summary by Projects as at March 31, 1964

	DATE OF COMPLETION	OUTSTANDING BALANCE MARCH 31, 1963	ADVANCES APRIL 1, 1963 TO MARCH 31, 1964	INTEREST ACCURAL 1963-64 (OR TO DATE OF COMPLETION)	REPAYMENTS, 1963-64			OUTSTANDING BALANCE MARCH 31, 1964
					PRINCIPAL	AMORTIZATION	INTEREST	
PROVINCE - PROJECT								
Province of New Brunswick								
Bathurst - Dalhousie Transmission Line	**	\$	\$1,040,176.38	\$ 26,051.23	\$	\$	\$	\$ 1,066,227.61
Beechwood - Fredericton Transmission Line	Sep. 26, 1962	1,344,338.33	—	—	11,460.58	67,216.92	—	1,332,877.75
Grand Falls - Beechwood Transmission Line	Dec. 29, 1961	795,669.27	—	—	7,077.27	39,783.46	—	788,592.00
Grand Lake - Newcastle Transmission Line	Jul. 24, 1963	1,609,740.74	3,530.33	21,759.99	10,505.10	50,596.37	—	1,624,525.96
Moncton - N.S. Border Transmission Line	Mar. 31, 1962	1,223,426.89	—	—	12,057.70	55,054.21	—	1,211,369.19
Newcastle - Bathurst Transmission Line	Aug. 4, 1961	967,543.69	—	—	9,880.54	43,539.47	—	957,663.15
Saint John - Fredericton Transmission Line	Mar. 31, 1962	2,213,281.92	—	—	21,813.38	99,597.69	—	2,191,468.54
Saint John - Moncton Transmission Line	**	—	350,884.31	—	—	—	—	350,884.31
Bathurst Terminal Station	**	662,786.70	75,896.81	35,076.74	—	—	—	773,760.25
Fredericton Terminal Station	May 12, 1961	1,380,731.60	—	—	14,274.44	62,132.92	—	1,366,457.16
Saint John Terminal Station	Mar. 31, 1962	982,731.61	—	—	9,685.49	44,222.92	—	973,046.12
Beechwood Terminal Station Extension	Sep. 26, 1962	341,373.48	—	—	2,910.24	17,068.67	—	338,463.24
Grand Falls Terminal Station Extension	Mar. 31, 1962	76,773.52	—	—	672.89	3,838.68	—	76,100.63
Grand Lake Terminal Station Extension	**	82,148.86	—	4,000.00	—	—	—	86,148.86
Grand Lake Thermal Generating Station Extension	**	3,671,202.01	5,563,058.53	329,694.25	—	—	—	9,563,954.79
TOTALS (Province of New Brunswick)								
		\$15,351,748.62	\$7,033,546.36	\$416,582.21	\$100,337.63	\$483,051.31		\$22,701,539.56
Province of Newfoundland								
Whitbourne - Peter's River Transmission Line	Mar. 31, 1963	501,408.18	—	—	3,904.15	26,323.93		497,504.03
Province of Nova Scotia								
Antigonish - West Bay Transmission Line	Mar. 31, 1961	725,094.03	—	—	6,731.94	36,254.70		718,362.09
Bear River - Big Falls Transmission Line	Mar. 31, 1962	56,517.07	—	—	495.35	2,825.85		56,021.72
Cowie Falls - Sable River Transmission Line	Mar. 31, 1962	284,333.01	—	—	2,492.07	14,216.65		281,840.94
Hunter's Mountain - Tarbot Transmission Line	Mar. 31, 1962	385,686.77	—	—	3,380.40	19,284.34		382,306.37
Interconnection with N.S.L. and P. Co. Ltd. System	Mar. 31, 1961	81,708.57	—	—	758.60	4,085.43		80,949.97
Maccan - N.B. Border Transmission Line	Mar. 31, 1961	344,603.43	—	—	3,199.38	17,230.17		341,404.05
Ruth Falls - Truro Transmission Line	Mar. 31, 1962	4,039.76	—	—	35.41	201.99		4,004.35
Sissiboo Hydro - Weymouth Falls Transmission Line	Mar. 31, 1962	36,245.17	—	—	317.67	1,812.26		35,927.50
Trenton - Antigonish Transmission Line	Mar. 31, 1961	721,608.91	—	—	6,899.57	36,080.45		714,909.34
Trenton - Truro Transmission Line	Mar. 31, 1961	126,039.62	—	—	1,170.18	6,301.98		124,869.44
Truro - Maccan Transmission Line	Mar. 31, 1961	608,523.95	—	—	5,649.67	30,426.20		602,874.28
West Bay - Hunter's Mountain Transmission Line	Aug. 29, 1962	52,011.31	—	—	445.34	2,600.57		51,565.97
Maccan Terminal Station	Aug. 29, 1962	249,120.55	—	0.02	2,133.07	12,456.03		246,987.50
Sissiboo Terminal Station	Aug. 29, 1962	135,790.62	—	0.01	1,162.69	6,789.53		134,627.94
Trenton Terminal Station	Mar. 31, 1962	296,025.87	—	—	2,594.56	14,801.29		293,431.31
Truro (Onslow) Terminal Station	Mar. 31, 1962	300,225.18	—	—	2,631.36	15,011.26		297,593.82
Trenton Thermal Electric Generating Station Extension	Mar. 31, 1962	2,908,969.05	—	—	46,675.92	145,448.45		2,862,293.13
TOTALS (Province of Nova Scotia)								
		\$ 7,316,542.87	—	\$ 0.03	\$ 86,573.18	\$365,827.15		\$ 7,229,969.72
TOTALS (Provinces of New Brunswick, New-								
foundland and Nova Scotia)								
		\$23,169,699.67	\$7,033,546.36	\$416,582.24	\$190,814.96	\$875,202.39		\$30,429,013.31

NOTE: (**) in column headed "Date of Completion" indicates project not completed as at March 31, 1964.

NOTE: (**) in column headed "Date of Completion" indicates project not completed as at March 31, 1964.

INUVIK UTILITY PLANT
1 STEAM TURBINE - 600 KW
5 DIESEL UNITS - 2900 KW
TOTAL CAPACITY - 3500 KW
3 - 30,000 LB PER HR BOILERS

AKLAVIK DIESEL PLANT
2 UNITS - 350 KW TOTAL

FORT McPHERSON DIESEL PLANT
2 UNITS - 225 KW TOTAL

575' DE WHITEHORSE

34.5 KV TRANSMISSION LINE TO WHITEHORSE

POW. HOUSE

DAM & SPILL-WAY

YUKON RIVER

FEDERAL GOVERNMENT CONTROL DAM

MARO LAKE

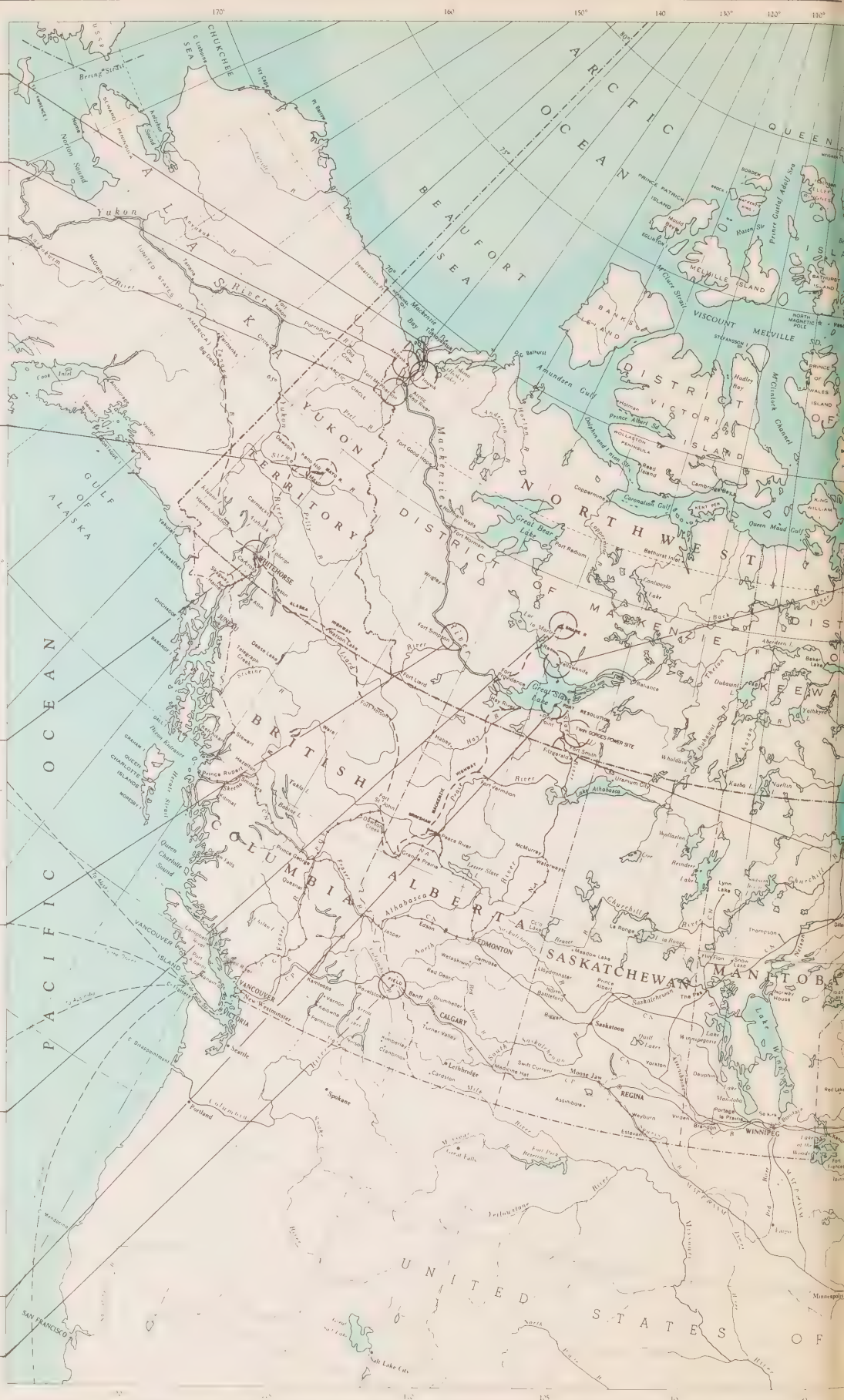
WHITEHORSE RAPIDS HYDRO PLANT

KILOMETERS

FORT SIMPSON DIESEL PLANT
4 UNITS - 1075 KW TOTAL

FORT RESOLUTION DIESEL PLANT
3 UNITS - 325 KW TOTAL

FIELD DIESEL PLANT
3 UNITS - 400 KW TOTAL



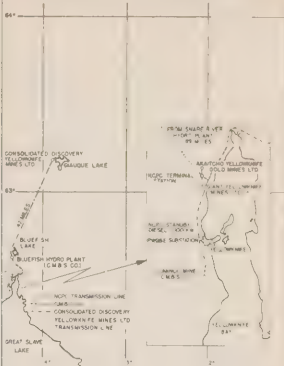


CANADA

MILES 100 50 0 100 200 300 400 500 MILES
KILOMETRES 100 0 100 200 300 400 500 600 700 800 KILOMETRES

Federal Capital.....●..... Provincial Capital.....●.....
Railways.....- - - - -
Highways.....- - - - -

YELLOWKNIFE AREA TRANSMISSION LINES



YELLOWKNIFE STANDBY DIESEL PLANT
1 UNIT - 1000 KW

FROBISHER BAY UTILITY PLANT
1 GAS TURBINE - 1500 KW
2 DIESEL UNITS - 2000 KW
TOTAL CAPACITY - 3500 KW
2-15,000,000 BTU/HR BOILERS
1-12,000,000 BTU/HR
WASTE HEAT BOILER

FORT SMITH DIESEL PLANT
4 UNITS - 2250 KW TOTAL



Waste heat boiler being moved to Powerhouse — Frobisher Bay, N.W.T.



Winter road to Taltson Development

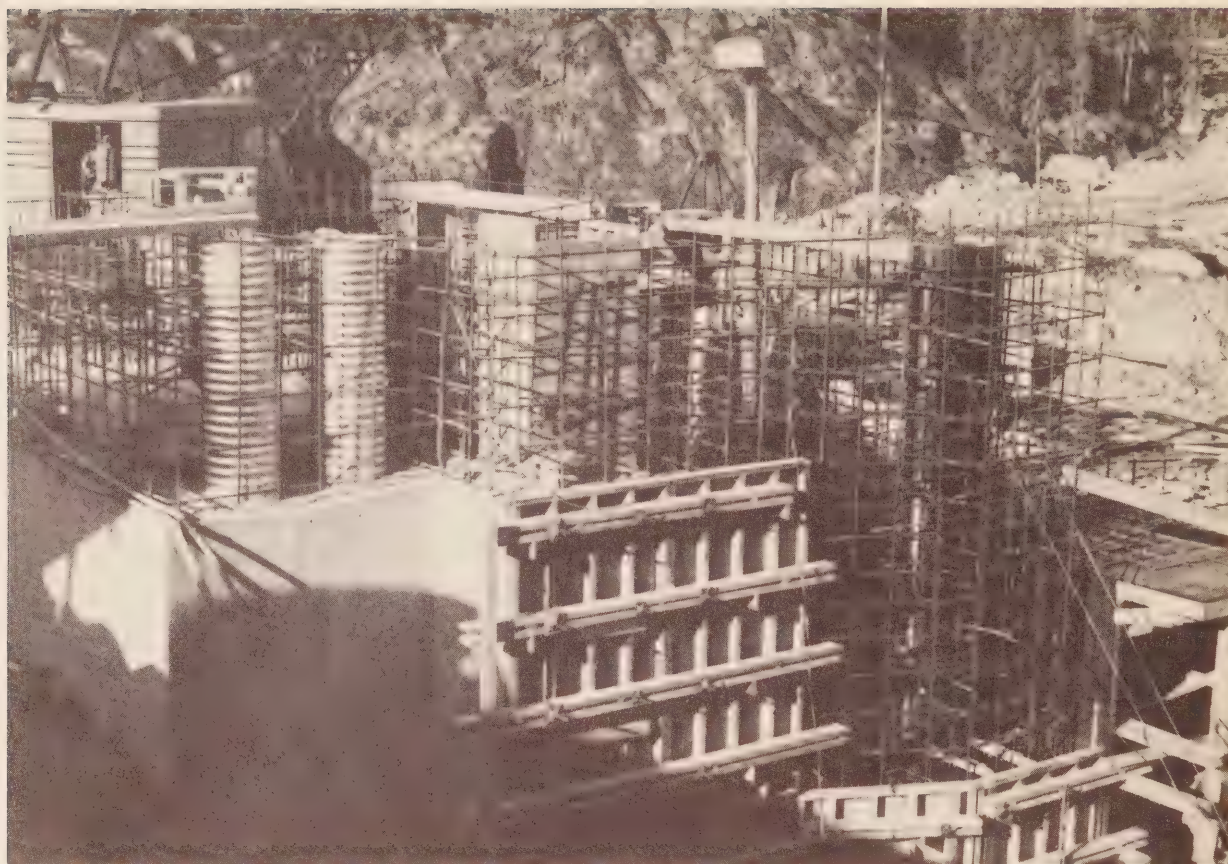


Portion of ice bridge across Slave River for access to Taltson Development



NORTHERN CANADA POWER COMMISSION

(17TH ANNUAL) REPORT 1964-1965



Construction of intake structure at Taltson River Hydro Electric Development.



Construction of transmission line from Taltson to Pine Point by helicopter.



ANNUAL REPORT

of the

Northern Canada Power Commission

for the Fiscal Year ended March 31, 1965

OTTAWA, CANADA



Northern Canada Power Commission

Fiscal Year 1964-1965

E. A. Côté *Chairman*

T. M. Patterson *Member*

J. F. Parkinson *Member*

E. W. Humphrys *General Manager - Chief Engineer*

T. A. Stott *Secretary-Comptroller*

Northern Canada Power Commission

June 30, 1965

The Honourable Arthur Laing, M.P.,
Minister of Northern Affairs and National Resources,
Ottawa, Ontario.

Dear Sir,

I have the honour to submit the Report of the Northern Canada Power Commission for the fiscal year ended March 31, 1965, as required under Section 24 of the Northern Canada Power Commission Act, Chapter 42, 4-5, Eliz. II.

Respectfully submitted,

E. A. Côté
Chairman

ANNUAL REPORT
of the
NORTHERN CANADA POWER COMMISSION
for the fiscal year ended
March 31, 1965
OTTAWA, CANADA

The Northern Canada Power Commission operates under authority of the Northern Canada Power Commission Act (4-5 Eliz. II, Chap. 42). The Commission is empowered to construct and operate public utility plants in the Northwest Territories and Yukon Territory and, subject to approval of the Governor General in Council, elsewhere in Canada. It is a requirement of the authorizing Act that projects undertaken by the Commission shall be self-sustaining; consequently rates charged for utilities supplied must provide sufficient revenue to cover interest on investment, repayment of principal over a period of years, operating and maintenance expenses and a contingency reserve. The Commission is thus a Federal Government Agency concerned with the construction and management of public utilities on a commercial basis.

The Commission's operations comprise five hydro stations and nine thermal plants as follows :

(I) *Yellowknife (Snare River) Hydro System, N.W.T.* — situated some ninety miles northwest of Yellowknife, N.W.T., supplying the Yellowknife area. This system consists of the 8,350 HP Snare Rapids plant on the Snare River commissioned in 1948, and the 9,200 HP Snare Falls plant (located about 8 miles downstream of the Rapids plant), placed in service in December, 1960. The two generating stations are connected to a terminal transformer station near Yellowknife by a 115 KV wood pole transmission line and is interconnected with the Consolidated Mining and Smelting Company Limited's Bluefish Hydro Plant by a short 34.5 KV transmission line extending from the Yellowknife terminal station. Both hydro stations and terminal station switching are remotely controlled from a control centre in Yellowknife. The system includes a 1,000 KW diesel standby plant located in Yellowknife.

(II) *Mayo River Hydro Plant, Y.T.* — commissioned in November 1952 as a 3,000 HP plant and increased to 6,000 HP by addition of a second unit in 1957. This plant is located about 5 miles north of Mayo, Y.T. and supplies power over approximately 32 miles of 69,000 volt line to mining properties in the vicinity of Elsa and Keno Hill and to a privately owned distribution system serving the Community of Keno City. A 6,900 volt transmission line extends from the generating plant to supply the Commission owned distribution system serving the settlement of Mayo, Y.T.

(III) *Whitehorse Rapids Hydro Plant, Y.T.* — a two unit 15,000 HP development located on the Yukon River about two miles upstream from Whitehorse. Commissioned in 1958, this plant supplies the installations of the Departments of National Defence (R.C.A.F.), Public Works (Highway Maintenance), and Department of Transport in the Whitehorse area and, by supplementing the Yukon Electric Company's own hydro generation, a substantial portion of the requirements of the City of Whitehorse; in addition, power that is currently surplus is supplied for heating purposes (through the medium of electric boilers) directly to the Department of National Health and Welfare hospital and to two hostels operated by the Indian Affairs Branch of the Department of Citizenship and Immigration.

(IV) *Taltson River Hydro Electric Development, N.W.T.* — this development is currently under construction with completion scheduled for October 1965. It will comprise an 18,000 KW single unit hydro plant located at the Twin Gorges on the Taltson River, approximately 35 miles northeast of Fort Smith, N.W.T., and a 170 mile 115 KV transmission line via Fort Smith to the Pine Point Mines

Limited property near Great Slave Lake. A substation at Fort Smith will supply that area, and the community of Pine Point will be supplied from the nearby terminal substation at the mining property. The generating plant will be remotely controlled from a control centre located in Fort Smith.

- (V) *Fort Smith Diesel Plant, N.W.T.* — established in 1950 as a 350 KW plant and enlarged in 1955, 1958, 1960, 1962 and 1964. This plant now has five generating sets totalling 3,250 KW; the associated distribution system serves the Fort Smith townsite and airport areas.
- (VI) *Fort Simpson Diesel Plant, N.W.T.* — established in 1956 with initial capacity of 225 KW, and enlarged in 1958, 1960 and 1962 to the present capacity of 1,075 KW. This plant supplies the community of Fort Simpson and the Fort Simpson Airport situated some 12 miles south of the settlement. The central heating system serving the federal school and hostels, and the water and sewerage systems serving the community are operated by the Commission on behalf of the Department of Northern Affairs and National Resources.
- (VII) *Inuvik Utilities Plant, N.W.T.* — this plant comprises a 3,500 KW generating station combined with a central heating plant (installed capacity of 90,000,000 BTU's per hour), a water pumping and treatment plant, and an above ground system of utilidors distributing central heat and water and sewerage services to the major part of the townsite. An associated electrical distribution system serves the community and the airport located approximately 8 miles west of the town centre. Supply of power commenced in October 1958 and the central heating, water and sewerage systems were commissioned in 1959; additional diesel electric generating capacity was installed in 1960 and 1963.
- (VIII) *Frobisher Bay Utilities Plant, N.W.T.* — this operation comprises a thermal power plant with a capacity of 3,500 KW, made up of a 1,500 KW gas turbine and 2,000 KW of diesel electric units, and a high temperature hot water central heating plant rated at 42,000,000 BTU's per hour; the latter consists of two 15,000,000 BTU's/Hr hot water boilers, and a 12,000,000 BTU's/Hr waste heat boiler associated with the gas turbine. An electrical distribution

system serves the airport area and the nearby Apex Hill settlement.

- (IX) *Field Diesel Plant, B.C.* — 400 KW diesel plant with associated distribution system was commissioned in 1959, to supply the general area of Field, B.C., the administrative centre for the Yoho National Park.
- (X) *Fort Resolution Diesel Plant, N.W.T.* — this plant with an installed capacity of 325 KW was placed in service in February 1961 and serves the settlement of Fort Resolution.
- (XI) *Fort McPherson Utilities Plant, N.W.T.* — this operation comprises a 225 KW diesel generating plant, the hostel heating plant and the water supply and sewerage systems. The power plant supplies the school, the hostel and a number of government and private premises in the settlement. The facilities are owned by the Department of Northern Affairs and National Resources and are operated by the Commission on behalf of the Department.
- (XII) *Aklavik Diesel Plant, N.W.T.* — a diesel generating plant, with an installed capacity nominally rated as 470 KW, and a local distribution system is operated on behalf of the Department of Northern Affairs and National Resources.
- (XIII) *Moose Factory Utilities Plant, Ont.* — a utility operation comprising a 850 KW power plant, a central heating installation rated at 20,000,000 BTU's/Hr, water pumping and treatment and sewage disposal plants, and associated distribution systems, formerly operated by the Department of National Health & Welfare (Northern Health Services Branch) was taken over by the Commission April 1, 1964. These facilities supply the Department of National Health & Welfare hospital, the Department of Citizenship and Immigration (Indian Affairs Branch) residential school, residential quarters for both establishments and a number of privately owned premises on Moose Factory Island near Moosonee, Ontario. The associated electrical distribution system supplies power only to other residential and business premises on the Island.

PERSONNEL

At year end, full time staff totalled 245 comprising 40 at Ottawa Head Office, 2 in the Edmonton Office, and 203 at the twelve operat-

ing plants. This is an increase of 42 over the previous year and is due chiefly to the addition of the Moose Factory operation.

Payroll for the year (including short term casual employees) totalled \$1,483,800 as compared to \$1,224,375 for the previous year including recoverable labour expense which increased from \$305,288 in the previous year to \$361,641 in respect to contract work on behalf of government departments and others.

OPERATIONS

A tabulation of statistical data pertaining to the various plants appears on page 24 of this report.

YELLOWKNIFE (SNARE RIVER) HYDRO SYSTEM, N.W.T.

Peak load and total energy generation increased approximately 6%, with both hydro plants operating at virtually full capacity during the winter months when supply of secondary power for heating purposes is at a maximum.

Increased energy consumption led to greater revenue and a higher than expected surplus for the year. In consequence a small reduction in the rate for primary power will be possible during the ensuing year.

Following the decision to move the operational control centre from the Snare Rapids plant to Yellowknife, a one storey building comprising a control room, offices and a vehicle garage was constructed at a central location in Yellowknife in the fall of 1964; basements and foundations were also constructed in the residential area of Yellowknife to accommodate three dwellings to be moved to Yellowknife from the Snare Rapids plant site. In the latter part of the year, control equipment was moved from Snare Rapids to Yellowknife, which, along with additional new equipment, was installed in the Control Centre by Commission personnel. The three houses were successfully moved from the Snare Rapids site to Yellowknife in March and located on prepared foundations. By year end the plant superintendent and some of the operating personnel had taken up residence in Yellowknife. Full commissioning of the remote control system has been delayed by technical difficulties having to do with the power line carrier communication and control link between Yellowknife and Snare Rapids. These problems are of a nature that could not be foreseen but are not serious and it is anticipated that they will be overcome during the summer months of 1965. The staff at the original Snare Rapids

plant will then be reduced to a caretaker category, with one standby operator from the Yellowknife control centre staff serving the Snare Rapids plant for a two week duty tour on a rotating basis. The staffhouse at Snare Rapids will be kept in operation on a reduced scale, and the site will normally receive bi-weekly aircraft service in lieu of the previous weekly service.

No serious operating problems were encountered; major maintenance was confined to replacement of slip rings on the Snare Rapids generator.

MAYO RIVER HYDRO PLANT, Y.T.

Energy consumption by mining operations and retail sales increased approximately 7% and the plant continued to operate at full capacity throughout most of the year due to electric boiler consumption augmenting primary power demand to the full amount available.

Revenue increased slightly as did maintenance and operating expense.

Major maintenance work involved partial dismantling of the No. 2 unit to examine the thrust bearing and fit new components, and reconstruction of the 6,900 volt transmission line extending from the Hydro Site to Mayo.

A 300 KW diesel electric standby unit was installed and commissioned at the hydro plant site to protect the supply of power to the Mayo townsite during maintenance shutdowns of the hydro plant. A second hand diesel unit located in Whitehorse was purchased and moved to the Mayo Hydro plant site (this unit was part of the former DND (Army) plant decommissioned following establishment of the Commission's Whitehorse Rapids hydro plant) and a prefabricated steel building was erected to house the equipment. This work was carried out entirely by Commission personnel.

WHITEHORSE RAPIDS HYDRO PLANT, Y.T.

Although peak demand increased about 11% there was a slight decline in total energy output due to a reduction in power usage by the former D.N.D. (Army) establishment following its transfer to the Department of Public Works. However, revenues were sufficient to provide for a further transfer to the contingency reserve account and a small reduction of the primary power rate in the ensuing year.

Members of the Whitehorse plant staff assisted in maintenance and construction work at the Mayo plant, and in the setting up of a mobile diesel standby plant at Dawson, Y.T.

FORT SMITH DIESEL PLANT, N.W.T.

Power demand and energy output increased approximately 12% and 8% respectively. Because of a rate reduction during the preceding year there was only a marginal increase in revenue whereas increased fuel costs due to higher energy output and abnormal maintenance charges in respect to standby equipment accounted for an 11% rise in operating costs.

As a temporary expedient pending hydro supply becoming available, the reserve capacity of the Fort Smith plant was increased by a 1,000 KW medium speed diesel unit transferred from Frobisher Bay. This equipment was housed in a "lean to" addition to the powerhouse building. This is a temporary arrangement pending relocation of the diesel equipment to a new site adjacent to the Taltson River hydro control centre. In addition to increasing the standby reserve, this unit will permit the future transfer of the main 1,000 KW heavy duty unit to Inuvik after hydro supply from the Taltson River development reduces the Fort Smith diesel plant to a standby role. Consequently the standby unit is being leased to the Fort Smith operation by the Frobisher Bay plant for the time being. Because of its temporary nature the cost of installing this equipment at Fort Smith has been treated as operational expense of the current year.

FORT SIMPSON DIESEL PLANT, N.W.T.

Peak demand increased by 20% and energy generation was 11% higher than for the preceding year. Operating costs increased by 9% but because of a rate reduction during the preceding year revenue increased only 9% resulting in only a minor surplus for the year.

Operation of the school/hostel central heating plant and domestic water supply system by Commission staff was continued under a contract with the Department of Northern Affairs and National Resources. This work included construction of a steam line from the central heating plant to the water treatment plant thereby eliminating operation of a separate steam boiler in the water treatment plant for heating the building and raising the temperature of the circulating water system. Extensions to the water and sewerage systems were constructed to supply the new Federal office building and three new residential consumers.

Arrangements were made for technical maintenance of Department of Northern Affairs and National Resources installations at the communities of Fort Wrigley, Fort Liard, Jean Marie River and Nahanni Butte, by the Commission's Fort Simpson staff. The Commission continued

to provide maintenance services for government owned premises and the C.N.T. telephone system in Fort Simpson.

INUVIK UTILITIES PLANT, N.W.T.

Peak electrical load and energy output increased approximately 11%. Because of additional loads connected during the year and increased heat requirements resulting from a 7% increase in the degree days for the year, heat energy production increased approximately 13% and there was a 4% increase in peak heating load. Consumption of water supplied through the domestic water treatment plant increased 12%. The general increase in supply of utility services produced a 14% increase in revenue whereas operating and maintenance expenses were only 7% higher than for the previous year. Consequently a substantial surplus was again recorded, permitting a further transfer to the Contingency Reserve Fund.

The utilidor system was extended by construction of 455 feet of main utilidor and 415 feet of utilidette to service two single and six quadruplex dwelling units, new single staff building and three privately owned residential and commercial premises.

Plans were prepared for a permanent stores and office building. Because of the proximity of this structure to the powerhouse, and to minimize disturbance of the permafrost regime in this area, the piles for this new structure were set by drilling instead of the conventional steam thawing and driving process; this work was carried out by contract. It was decided to allow the piles to "freeze in" before erecting the laminated floor and two storey prefabricated building which are now scheduled for supply and completion in 1965.

FROBISHER BAY UTILITIES PLANT, N.W.T.

While the peak electrical load was slightly less than in the preceding year energy output increased by over 6%. This was the first full year of operation of the central heating plant, but because of the decision not to proceed with construction of a new townsite, a large part of the originally intended load was not available to the new heating plant. As indicated in the preceding Annual Report it is planned to supply the Federal Building (formerly Strategic Air Command composite premises) from the new central heating plant but technical considerations and the limited shipping season forced deferment of this work until 1965. Consequently for the current year the new plant has been treated as still under construction and amortization charges in re-

spect to its capital cost have not been assessed; interest accruals on capital advances for this plant will be capitalized as of the date of completion.

The lease with the Department of Transport in respect to the original power plant covering four 250 KW diesel units was terminated as of May 1st. This equipment was subsequently declared surplus and was purchased by the Commission from Crown Assets Disposal Corporation. Two of the four units were shipped out of Frobisher Bay in the 1964 shipping season to be utilized in the new plant at Fort McPherson; the cost of this equipment will be reimbursed to the Frobisher Bay operation.

One of the two 1,000 KW diesel units that had been out of service because of mechanical failure was transferred to Fort Smith on a rental basis, pending a capital adjustment between the two plants to be made when other diesel equipment at Fort Smith has been transferred to Inuvik.

Operation of the new water treatment plant situated adjacent to the powerhouse was undertaken by the Commission under a contract arrangement with the Department of Northern Affairs and National Resources. Construction of an 8" water main approximately 900 feet long to connect the treated water supply to the existing water main supplying the Federal Building was undertaken in the fall of 1964. Due to the late arrival of material it became impracticable to complete this pipeline before the onset of severe winter weather made it advisable, in the interests of economy and safety to the existing water supply main, to terminate work; this project will be completed in 1965 in conjunction with construction of the system pipelines connecting the Federal Building to the central heating system.

FIELD DIESEL PLANT, B.C.

Peak demand and energy production increased by approximately 16% and 11% respectively. The continued increase in power sales permitted a further rate reduction of 2¢/KWHr for the initial blocks of energy and 1¢/KWHr for volume consumption. In consequence revenue declined approximately 7% whereas operating costs increased by over 12% owing to higher fuel and maintenance expense, resulting in a moderate surplus. If the consumption of power continues to increase, some further rate reduction should be possible, but this encouraging outlook is conditioned by the fact that the increasing demand will soon bring about the need to enlarge the generating capacity of the plant; this additional capital investment will militate against rate reduction until energy consumption again catches up with capacity.

During the year, permission was granted for the rent-free use of the Commission's distribution system poles by the Field Television Society, a non-profit community organization.

FORT RESOLUTION DIESEL PLANT, N.W.T.

Demand and energy production increased by approximately 9% and 23% respectively resulting in an 11% increase in revenue. Because of lower maintenance expense there was only a slight increase in operating costs and a moderate surplus resulted. However, contemplated essential capital expenditures for staff accommodation and plant equipment will increase annual costs to the extent that rates will have to be maintained at the present level until there is evidence that further significant increases in energy consumption can be expected.

FORT McPHERSON UTILITIES PLANT, N.W.T.

Operation of the diesel power plant, the hostel heating plant, and the domestic water supply and sewage disposal system continued under a contract with the Department of Northern Affairs and National Resources. This work includes maintenance of all mechanical/electrical equipment in government owned premises, operation of the central fuel storage/distribution system, maintenance of the utilidor structures associated with the water/sewerage system, and vehicle maintenance. All costs, including provision for general overhead, of the Fort McPherson operation, less revenue derived from sales to others, are recoverable from the Department. This activity is classed as contract work and totalled \$207,078.01 for the year.

In anticipation of the construction of a Commission owned generating plant at Fort McPherson, two 250 KW diesel generating units and associated equipment were shipped from Frobisher Bay to Fort McPherson in the fall of 1964. Plans for the new plant have been prepared and construction is scheduled to commence during the coming summer.

AKLAVIK DIESEL PLANT, N.W.T.

The diesel generating plant and associated distribution system at Aklavik are operated by the Commission on behalf of the Department of Northern Affairs and National Resources under a contract agreement similar to the Fort McPherson arrangement.

During the year two 30 KW generating units that were on hand at this plant were reconditioned and installed, and a new 60 KW unit

was purchased and placed in service. Re-building of the distribution system, which commenced in the fall of 1963, was completed.

MOOSE FACTORY UTILITIES PLANT, ONT.

The Commission assumed responsibility for operation of these facilities on April 1, 1964. Detailed statistical data for the previous year is not available, but plant figures indicate that power generation increased approximately 10% while output of heat was substantially unchanged.

Operating costs for the year include the rental paid to the Department of National Health & Welfare in respect to plant facilities (in lieu of capital charges), but costs are omitted with respect to fuel supplies which were on hand when the plant was turned over to the Commission on April 1, 1964. Thus the value of 3972 tons of coal (\$81,733) and 25,081 gallons of diesel oil (\$7,956) totalling \$89,689 is not recorded as 1964-1965 operating expenses and Surplus is therefore abnormally high for this first year of Commission operation. However, the Surplus is required as working capital at this time, primarily to finance future fuel inventories and will, in the future, be allocated to the Contingency Reserve Fund as circumstances permit.

TALTSON RIVER HYDRO ELECTRIC DEVELOPMENT, N.W.T.

During the year contracts were awarded for construction of the transmission line, electrical and mechanical installations in the power plant, and transportation of equipment from Edmonton to the power plant site. All heavy equipment was successfully delivered to the site via truck transport over winter roads before these roads became unserviceable in early April.

Difficulties encountered in the powerhouse and tailrace excavations seriously delayed work on the powerhouse substructure and made the pouring of concrete unavoidable throughout the winter when temperatures ranged to -55°F. However, by year end, the powerhouse substructure and other major civil engineering work was nearing completion, and installation of equipment and construction of the pipeline and surge tank was about to commence. Transmission line construction was carried on through the winter months and this phase of the project was on schedule at year end. Despite the delay in the powerhouse work, indications are that the scheduled commissioning date of late October 1965 will be achieved.

THE ATLANTIC PROVINCES POWER DEVELOPMENT ACT

The Atlantic Provinces Power Development Act (1958) provides for agreements between the Government of Canada and the Governments of the Atlantic Provinces, and for further agreements covering specific projects between the Northern Canada Power Commission and the respective Provincial Power Commission whereby assistance may be provided in respect to the generation and transmission of electric power. Such assistance may be in the form of long term loans to cover the costs of constructing thermal power plants and high voltage transmission lines and the payment of a subvention on coal mined and used within the Atlantic Provinces for generating electricity. Loans in connection with thermal power plants are repayable over the 30 year period following completion and, similarly, loans relating to transmission lines are repayable over 40 years. The Northern Canada Power Commission is responsible for financing, constructing and equipping power plants and high voltage transmission lines and the Dominion Coal Board administers the coal subvention payments.

Particulars of transactions relating to transmission line facilities and thermal power plants are provided in the financial section of this Report, and summarized in Exhibit IX, the final financial statement of this Report.

FINANCIAL

Funds to cover the construction of power projects are advanced by the Minister of Finance and are repayable by amortization.

On completion, power plants are operated on a self-sustaining basis and profits or losses are not transferable between plants. Power rates are established at the level necessary to meet operating costs in accordance with Section 10 of the Act. Charges shown as depreciation include principal repayments, depreciation @ 3½% per annum on assets acquired from earnings under the provisions of Section 22 of the Act and depreciation @ 10% per annum on furniture and equipment in the Edmonton and Ottawa Offices. The Commission's fiscal year is the 12 month period ending March 31.

CONTINGENCY RESERVE FUND

The Commission authorized allocations of Earned Surplus to the Contingency Reserve Fund during the year 1964-1965 in relation to the following operations:

Yellowknife/Snare River, N.W.T.	\$ 9,000.00
Whitehorse, Y.T.	113,044.75
Inuvik, N.W.T.	100,000.00
Moose Factory, Ont.	1,000.00

CONTRACT WORK

The Commission operated the Aklavik Power Plant, the Fort McPherson Utilities Plant, the Fort Simpson Hostel/School Central Heating Plant and Water Treatment Plant and the Federal Building Heating Plant and Water Treatment Plant at Frobisher Bay, on behalf of the Department of Northern Affairs and National Resources. In addition, miscellaneous electrical and mechanical services were provided including occasional installation and construction work for government departments and others at these and at other plant locations. All contract work was done on a cost repayable basis including a surcharge on labour expense to offset general overhead which appears under "Contract Work" in the Statement of Income and Expense (Exhibit V — Financial Statements) as "Head Office Assessment". A total surcharge of \$134,697.05 was derived from various operations which reduced the general overhead assessment on each as follows:

Yellowknife/Snare River, N.W.T. .. \$	898.80
Fort Smith, N.W.T.	410.59
Mayo River, Y.T.	9.49
Fort Simpson, N.W.T.	33,421.23
Whitehorse, Y.T.	130.57
Inuvik, N.W.T.	37,118.88
Frobisher Bay, N.W.T.	20,564.28
Fort McPherson, N.W.T.	24,660.50
Field, B.C.	35.30
Fort Resolution, N.W.T.	99.63
Aklavik, N.W.T.	11,543.12
Moose Factory, Ont.	729.70
Taltson River Hydro-Electric Development, N.W.T.	3,383.79
Head Office (Ottawa)	1,691.17
	<hr/>
	\$134,697.05

FINANCIAL STATEMENTS

Included in this Report is the Consolidated Balance Sheet of the Commission (Exhibit I) as certified by the Auditor General of Canada together with related Statements of Income and Expense (Exhibit II) and Earned Surplus (Exhibit III) reflecting the financial position of the Commission's accounts as of March 31, 1965.

Also included, to provide detail in relation to the various plants and projects are Supplementary Statements as follows:

Exhibit IV — Assets and Liabilities, by Plants and Projects, as at March 31, 1965.

Exhibit V — Income and Expense, by Plants, for the fiscal year ended March 31, 1965.

Exhibit VI — Earned Surplus, by Plants, for the fiscal year ended March 31, 1965.

Exhibit VII — Advances, by Plants and Projects, including interest accruals and principal repayments to March 31, 1965 incl.

Exhibit VIII — Allocation of Head Office Assessment for the fiscal year ended March 31, 1965.

Exhibit IX — Projects authorized under the Atlantic Provinces Power Development Act as at March 31, 1965.

Ottawa, June 25, 1965.

The Honourable Arthur Laing,
Minister of Northern Affairs and National Resources,
Ottawa.

Sir,

I have examined the accounts and financial statements of Northern Canada Power Commission for the year ended March 31, 1965. In compliance with the requirements of section 87 of the Financial Administration Act, I report that, in my opinion :

- (a) proper books of account have been kept by the Commission;
- (b) the financial statements of the Commission
 - (i) were prepared on a basis consistent with that of the preceding year and are in agreement with the books of account,
 - (ii) in the case of the balance sheet give a true and fair view of the state of the Commission's affairs as at the end of the financial year, and
 - (iii) in the case of the statement of income and expense, give a true and fair view of the income and expense of the Commission for the financial year; and
- (c) the transactions of the Commission that have come under my notice have been within the powers of the Commission under the Financial Administration Act and any other Act applicable to the Commission.

Yours faithfully,

A. M. Henderson,
Auditor General of Canada.

NORTHERN CANADA
(Established by the North
Balance Sheet
(with comparative figures))

Assets		
Current Assets :	1965	1964
Cash	\$ 1,731,647	\$ 1,150,074
Accounts receivable	1,507,771	1,318,634
Inventories of maintenance and operating supplies, at cost	1,374,368	1,122,833
TOTAL Current Assets	\$ 4,613,786	\$ 3,591,541
Bonds held as Consumers' Security Deposits	\$ 75,000	\$ 75,000
Investment in Government of Canada Bonds, at amortized cost, including accrued interest (market value \$1,018,625)	\$ 1,014,529	\$ 1,015,331
Capital Assets, at cost :		
Power plants	\$19,577,255	\$19,482,866
Transmission and distribution facilities	3,375,384	3,343,181
Staff dwellings, warehouses and miscellaneous buildings	967,245	944,038
Communication, transportation and other equipment	594,057	556,872
Projects under construction	9,451,656	3,141,797
	\$33,965,597	\$27,468,754
<i>Less : Accumulated depreciation (equivalent to repayment of principal of advances from the Government of Canada)</i>	<i>6,336,259</i>	<i>5,800,330</i>
	\$27,629,338	\$21,668,424
Central heating, water and sewerage and fire alarm systems at Inuvik, Northwest Territories	7,003,445	7,003,445
TOTAL Capital Assets	\$34,632,783	\$28,671,869
	\$40,336,098	\$33,353,741

Certified correct :

(Sgd.) T. A. Stott
Secretary-Comptroller

Note: The Commission administers loans, which amounted to \$32,157,463 as at March 31, 1965, made by the Government of Canada pursuant to agreements entered into under the Atlantic Provinces Power Development Act.

Approved :

(Sgd.) E. A. Côté
Chairman

POWER COMMISSION

(Canada Power Commission Act)

March 31, 1965

(at March 31, 1964)

Liabilities

Current Liabilities :

	1965	1964
Accounts payable	\$ 1,207,473	\$ 616,429
Contractors' holdbacks	287,576	103,376
TOTAL Current Liabilities	\$ 1,495,049	\$ 719,805

Consumers' Security Deposits	\$ 86,582	\$ 85,599
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Proprietary Equity of the Government of Canada :

Advances, including \$50,000 for investigation of projects	\$28,141,494	\$22,463,228
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Equity represented by cost of :

Central heating, water and sewerage and fire alarm systems at Inuvik, Northwest Territories, financed by parliamentary appropriation	7,003,445	7,003,445
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Extension, expansion and improvements of capital assets financed from earnings	314,866	297,103
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Reserve for contingencies	2,020,000	1,796,955
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Earned surplus	1,274,662	987,606
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	\$38,754,467	\$32,548,337
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	\$40,336,098	\$33,353,741
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I have examined the above Balance Sheet and the related Statement of Income and Expense and have reported thereon under date of June 25, 1965 to the Minister of Northern Affairs and National Resources.

A. M. Henderson
Auditor General of Canada

NORTHERN CANADA POWER COMMISSION

Statement of Income and Expense for the year ended March 31, 1965

(with comparative figures for the year ended March 31, 1964)

Income	1965	1964
Sales of power	\$3,111,303	\$2,883,390
Income arising from construction, maintenance and operation of facilities for government departments and others	965,995	689,166
Sales of heat	733,802	411,430
Water and sewerage services	112,511	47,594
Interest	56,690	53,349
Miscellaneous	35,503	70,178
	<u>5,015,804</u>	<u>4,155,107</u>
Expense		
Operating :		
Salaries and wages	\$1,223,102	\$1,006,371
Fuel and lubricants	770,951	602,286
Material and supplies	329,167	235,648
Maintenance and improvements	198,673	123,908
Employees' board and accommodation (net)	132,937	95,914
Travel and removal	85,997	76,018
Maintenance of trucks, tractors, etc.	33,689	28,393
Plant, line and equipment rentals	27,327	31,656
Tools and miscellaneous equipment	21,561	11,088
Telegrams, telephone and postage	15,815	10,360
Insurance	12,196	11,805
Miscellaneous	35,690	18,391
	<u>\$2,887,105</u>	<u>\$2,251,838</u>
Administrative :		
Salaries	\$ 260,698	\$ 218,004
Office rent	20,649	14,308
Miscellaneous	20,259	12,077
	<u>301,606</u>	<u>\$ 244,389</u>
Interest on advances from the Government of Canada	750,779	\$ 748,871
Depreciation (equivalent to repayment of principal of advances from the Government of Canada)	548,450	\$ 521,171
	<u>\$4,487,940</u>	<u>\$3,766,269</u>
NET INCOME	<u>\$ 527,864</u>	<u>\$ 388,838</u>

NORTHERN CANADA POWER COMMISSION
Statement of Earned Surplus for the year ended March 31, 1965

Balance as at April 1, 1964		\$ 987,606
Deduct:		
Transfers to:		
Reserve for contingencies	\$223,045	
Equity represented by cost of extension, expansion and improvements of capital assets	17,763	
		<hr/>
		240,808
		<hr/>
		\$ 746,798
Add: Net income for the year		\$ 527,864
		<hr/>
Balance as at March 31, 1965		\$1,274,662
		<hr/>

NORTHERN CANADA POWER COMMISSION

Assets and Liabilities, by Plants and Projects, as at March 31, 1965

ASSETS	SNARE RIVER PLANTS	FORT SMITH PLANT	MAYO PLANT	FORT SIMPSON PLANT	WHITEHORSE PLANT	INUUVIK PLANT	FROBISHER BAY PLANT	FIELD PLANT	FORT RESOLUTION PLANT	MOOSE FACTORY PLANT	TALSON RIVER PROJECT	EDMONTON AND HEAD OFFICES	CONTRACT WORK	TOTAL
Current Assets :														
Cash :														
Capital Account	\$ (154,985)	\$ (6,236)	\$ (10,743)	\$ (6,762)	\$ 98,356	\$ 50,230	\$ 824,362	\$ 455	\$ (563)	\$ 57,690	\$ (85,259)	\$ (5,428)	\$ —	\$ 761,233
Special Account	470,437	10,314	391,752	(77,118)	206,020	(368,440)	(469,078)	27,112	(19,819)	(93,343)	—	1,498,815	(606,237)	970,414
Accounts Receivable	120,968	49,238	38,040	51,242	76,032	333,495	165,131	5,251	16,407	120,467	—	13,373	518,127	1,507,771
Inventories of maintenance and operating supplies, at cost	54,424	54,655	20,823	52,953	13,522	338,497	581,400	3,780	15,563	139,661	—	10,980	88,110	1,374,368
Total Current Assets	490,840	107,971	439,872	20,315	394,110	353,782	1,101,814	36,598	11,588	224,415	(85,259)	1,517,740	—	4,613,786
Bonds held as Consumers' Security Deposits	50,000	—	25,000	—	—	—	—	—	—	—	—	—	—	75,000
Investment in Government of Canada Bonds, at amortized cost, including accrued interest (Market Value \$1,018,625)	314,473	25,406	225,833	12,421	176,689	135,499	112,916	6,775	4,517	—	—	—	—	1,014,529
Capital Assets, at Cost :														
Power Plants	6,864,699	421,704	3,822,832	254,047	6,746,867	882,488	367,041	116,085	101,155	237	—	—	—	19,577,255
Transmission and Distribution Facilities	1,788,331	146,316	573,252	65,705	251,117	429,893	69,237	28,170	20,057	3,306	—	—	—	3,375,384
Staff dwellings, warehouses and miscellaneous buildings	339,386	28,516	264,757	18,980	77,880	57,164	134,724	45,898	—	—	—	—	—	967,245
Communication, transportation and other equipment	306,364	11,953	100,833	17,734	20,200	27,478	48,374	8,844	3,973	5,335	—	42,369	—	594,057
Projects under construction	127,173	—	—	—	—	378,378	2,237,562	—	—	1,905	6,706,402	236	—	9,451,656
	9,425,953	608,489	4,761,774	356,466	7,096,064	1,775,401	2,857,538	198,937	125,185	10,783	6,706,402	42,605	—	33,965,597
Less : Accumulated depreciation,														
(a) Repayment of Principal on Advances from the Government of Canada	3,085,046	117,130	2,445,150	51,694	502,575	80,158	32,779	16,634	8,109	—	—	—	—	6,339,275
(b) On Assets acquired under Sec. 22 of the Act	14,173	19,197	—	4,471	—	—	—	—	29	—	—	15,296	—	53,166
(c) Cost, less proceeds on Assets written-off or sold	(7,931)	(15,366)	(12,839)	(5,559)	(5,401)	(148)	(7,127)	(608)	(1,203)	—	—	—	—	(56,182)
	3,091,288	120,961	2,432,311	50,606	497,174	80,010	25,652	16,026	6,935	—	—	15,296	—	6,336,259
	6,334,665	487,528	2,329,463	305,860	6,598,890	1,695,391	2,831,886	182,911	118,250	10,783	6,706,402	27,309	—	27,629,338
Central heating, water and sewerage and fire alarm systems at Inuvik, Northwest Territories	—	—	—	—	—	7,003,445	—	—	—	—	—	—	—	7,003,445
Total Capital Assets	6,334,665	487,528	2,329,463	305,860	6,598,890	8,698,836	2,831,886	182,911	118,250	10,783	6,706,402	27,309	—	34,632,783
	\$7,189,978	\$620,905	\$3,020,168	\$338,596	\$7,169,689	\$9,188,117	\$4,046,616	\$226,284	\$134,355	\$235,198	\$6,621,143	\$1,545,049	—	\$40,336,099

NORTHERN CANADA POWER COMMISSION

Assets and Liabilities, by Plants and Projects, as at March 31, 1965

LIABILITIES	SNARE RIVER PLANTS	FORT SMITH PLANT	PLANT MAYO	FORT SIMPSON PLANT	WHITEHORSE PLANT	INUVIK PLANT	FROBISHER BAY PLANT	FIELD PLANT	FORT RESOLUTION PLANT	MOOSE FACTORY PLANT	TALTON RIVER PROJECT	EDMONTON AND HEAD OFFICES	CONTRACT WORK	TOTAL
Current Liabilities:														
Accounts payable	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —	\$1,207,473	\$ —	\$ 1,207,473
Contractors' Holdbacks	—	—	—	—	—	—	—	—	—	—	—	287,576	—	287,576
Total Current Liabilities	—	—	—	—	—	—	—	—	—	—	—	1,495,049	—	1,495,049
Consumers' Security Deposits	50,000	4,235	25,772	1,435	—	2,340	1,224	611	765	—	200	—	—	86,582
Proprietary Equity of the Government of Canada:														
Advances, including \$50,000 for investigation of projects	6,088,766	348,675	2,318,720	246,426	6,697,425	1,745,621	3,656,248	183,366	116,891	68,413	6,620,943	50,000	—	28,141,494
Equity represented by cost of:														
Central Heating, Water and sewerage and fire alarm systems at Inuvik, Northwest Territories, financed by Par- liamentary appropriation	—	—	—	—	—	7,003,445	—	—	—	—	—	—	—	7,003,445
Extension, expansion and im- provements of capital assets financed from earnings	105,084	151,814	—	57,142	—	—	—	—	826	—	—	—	—	314,866
Reserve for Contingencies	566,000	45,000	400,000	22,000	426,000	340,000	200,000	12,000	8,000	1,000	—	—	—	2,020,000
Earned Surplus	380,128	71,181	275,676	11,593	46,264	96,711	189,144	30,307	7,873	165,785	—	—	—	1,274,662
	7,139,978	616,670	2,994,396	337,161	7,169,689	9,185,777	4,045,392	225,673	133,590	235,198	6,620,943	50,000	—	38,754,467
	\$7,189,978	\$620,905	\$3,020,168	\$338,596	\$7,169,689	\$9,188,117	\$4,046,616	\$226,284	\$134,355	\$235,198	\$6,621,143	\$1,545,049	—	\$40,336,098

NORTHERN CANADA POWER COMMISSION

Statement of Income and Expense, by Plants, for the fiscal year ended March 31, 1965

	SNARE RIVER PLANT	FORT SMITH PLANT	MAYO PLANT	FORT SIMPSON PLANT	WHITEHORSE PLANT	INUUVIK PLANT	FROBISHER BAY PLANT	FIELD PLANT	RESOLUTION PLANT	FORT PLANT	MOOSE PLANT	EDMONTON FACTORY AND HEAD OFFICES	CONTRACT WORK	TOTAL
INCOME														
Sales of Power:														
Mining	\$455,830	\$ —	\$371,832	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —	\$ 827,662
Commercial	145,684	142,435	28,059	101,395	532,742	253,715	419,175	39,779	46,518	—	72,313	—	13,893	1,795,708
Domestic	—	132,774	12,569	42,475	—	148,890	74,301	17,456	11,788	—	19,570	—	28,090	487,933
	\$601,514	\$275,209	\$412,480	\$143,870	\$532,742	\$402,605	\$493,476	\$57,235	\$58,306	—	\$ 91,883	—	\$ 41,983	\$3,111,303
Income arising from construction, maintenance and operation of facilities for government departments and others	—	—	—	—	—	—	—	—	—	—	—	—	—	965,995
Sales of heat	—	—	—	—	—	460,034	35,620	—	—	—	238,148	—	—	733,802
Water and sewerage services	28,867	—	24,897	(4,901)	18,873	56,119	(13,148)	1,109	(455)	—	56,392	—	—	112,511
Interest	4,653	3,854	2,237	1,179	3,883	877	12,290	2,114	723	—	14,585	—	(6,983)	56,690
Miscellaneous	—	—	—	—	—	—	—	—	—	—	124	77	3,492	35,503
	\$635,034	\$280,010	\$439,614	\$140,148	\$555,498	\$913,048	\$528,238	\$60,458	\$58,574	—	\$386,033	\$ 14,662	\$1,004,487	\$5,015,804
EXPENSE														
Operating:														
Salaries and wages	92,786	71,851	56,727	50,936	57,468	241,916	143,374	20,558	23,416	—	102,429	—	361,641	1,223,102
Fuel and lubricants	576	101,545	531	28,375	102	316,395	225,536	12,573	8,334	—	38,438	—	38,546	770,951
Material and supplies	2,638	2,796	645	1,629	613	(35,699)	6,026	208	1,407	—	5,687	—	343,217	329,197
Maintenance and improvements	10,128	27,075	14,756	7,937	2,268	24,880	34,906	1,326	1,992	—	12,144	—	61,261	138,673
Employees' Board and Accommodation (Net)	7,398	5,443	1,737	3,431	2,356	33,725	42,251	1,294	2,182	—	5,094	—	28,026	132,937
Travel and removal	19,289	1,160	6,445	4,657	1,599	24,610	12,185	71	1,284	—	1,493	—	13,204	85,997
Maintenance of trucks, tractors, etc.	5,635	1,147	2,430	2,265	704	12,077	6,375	474	364	—	111	—	2,107	33,689
Plant, line and equipment rentals	2,559	250	—	355	—	1,004	2,815	—	—	—	20,000	—	344	27,327
Tools and miscellaneous equipment	683	420	405	2,136	86	4,536	1,622	180	246	—	1,439	—	9,808	21,561
Telegrams, telephone and postage	2,372	2,482	1,683	934	517	1,578	2,785	132	316	—	475	—	2,541	15,815
Insurance	888	2,011	674	1,142	458	1,616	3,899	471	551	—	75	—	411	12,196
Miscellaneous	3,287	1,417	1,415	2,531	1,579	6,515	(664)	1,110	221	—	9,595	—	8,684	35,690
Administration:														
Salaries	—	—	—	—	—	—	—	—	—	—	—	—	—	260,698
Office rent	—	—	—	—	—	—	—	—	—	—	—	—	—	20,649
Miscellaneous	—	—	—	—	—	—	—	—	—	—	—	—	—	20,259
Head Office Assessment	33,500	18,990	19,246	9,043	19,652	17,939	8,142	4,741	4,462	—	22,268	—	134,697	—
Interest on advances from the Government of Canada	256,510	17,937	81,822	11,375	271,584	64,899	31,348	9,351	5,953	—	—	—	—	750,779
Depreciation (equivalent to repayment of prin- cipal of advances from the Government of Canada)	133,332	14,151	251,068	11,246	92,185	25,972	8,894	3,659	2,207	—	—	5,736	—	548,450
	\$571,581	\$288,675	\$439,584	\$137,992	\$451,171	\$741,963	\$529,494	\$56,148	\$52,935	—	\$219,248	\$ 14,662	\$1,004,487	\$4,487,940
NET INCOME	\$ 63,453	\$ 11,335	\$ 30	\$ 2,156	\$104,327	\$171,085	\$ (1,256)	\$ 4,310	\$ 5,639	—	\$166,785	—	—	\$ 527,864

NORTHERN CANADA POWER COMMISSION
Earned Surplus, by Plants, for the year ended March 31, 1965

	SNARE RIVER PLANTS	FORT SMITH PLANT	MAYO PLANT	FORT SIMPSON PLANT	WHITEHORSE PLANT	INUUVIK PLANT	FROBISHER BAY PLANT	FIELD PLANT	FORT RESOLUTION PLANT	MOOSE FACTORY PLANT	TOTAL
Balance as at April 1, 1964	\$330,803	\$62,421	\$275,646	\$18,672	\$ 54,982	\$ 25,626	\$190,400	\$25,997	\$3,059	\$ —	\$ 987,606
Deduct :											
Transfers to :											
Reserve for contingencies	9,000	—	—	—	113,045	100,000	—	—	—	1,000	223,045
Equity represented by cost of expansion and improvements of Capital Assets	5,128	2,575	—	9,235	—	—	—	—	825	—	17,763
	14,128	2,575	—	9,235	113,045	100,000	—	—	825	1,000	240,808
	316,675	59,846	275,646	9,437	(58,063)	(74,374)	190,400	25,997	2,234	(1,000)	746,798
Add :											
Net income for the year	63,453	11,335	30	2,156	104,327	171,085	(1,256)	4,310	5,639	166,785	527,864
Balance at at March 31, 1965	\$380,128	\$71,181	\$275,676	\$11,593	\$ 46,264	\$ 96,711	\$189,144	\$30,307	\$7,873	\$165,785	\$1,274,662

NORTHERN CANADA
Statement of Advances, by
interest accruals, details of amortization and

	ADVANCES UNDER AUTHORITY OF SEC. 15 OF THE ACT	INTEREST ACCRUALS DURING CONSTRUCTION	TOTAL ADVANCES PLUS INTEREST ACCRUALS DURING CONSTRUCTION	DATE OF COMPLETION OF CONSTRUCTION
OPERATING PLANTS				
Yellowknife (Snare River) System, N.W.T.	\$	\$	\$	
Snare Rapids Power Plant	4,537,284.80	77,715.20	4,615,000.00	Mar. 31, 1949
Snare Falls Power Plant	4,300,000.00	258,811.63	4,558,811.63	Mar. 31, 1961
	8,837,284.80	336,526.83	9,173,811.63	
Fort Smith Power Plant, N.W.T.	135,000.00	3,253.84	138,253.84	Mar. 31, 1951
	3,000.00	—	3,000.00	Mar. 31, 1954
	96,000.00	2,448.33	98,448.33	Mar. 31, 1958
	234,000.00	5,702.17	239,702.17	
	175,000.00	1,102.74	176,102.74	Mar. 31, 1961
	50,000.00	—	50,000.00	Mar. 31, 1963
	459,000.00	6,804.91	465,804.91	
Mayo Power Plant, Y.T.	4,193,000.00	113,217.97	4,306,217.97	Mar. 31, 1953
	450,069.53	7,582.69	457,652.22	Mar. 31, 1958
	4,643,069.54	120,800.66	4,763,870.19	
Fort Simpson Power Plant, N.W.T.	110,000.00	120.17	110,120.17	Mar. 31, 1957
	40,000.00	—	40,000.00	Mar. 31, 1959
	150,000.00	120.17	150,120.17	
	48,000.00	—	48,000.00	Mar. 31, 1961
	100,000.00	—	100,000.00	Mar. 31, 1963
	298,000.00	120.17	298,120.17	
Whitehorse Power Plant, Y.T.	6,852,512.43	347,487.57	7,200,000.00	Mar. 31, 1959
Inuvik Utilities Plant, N.W.T.	927,459.59	95,714.62	1,023,174.21	Mar. 31, 1961
(Power plant & distribution system only)	35,000.00	—	35,000.00	Mar. 31, 1963
	360,000.00	—	360,000.00	Mar. 31, 1964
	45,000.00	—	45,000.00	Mar. 31, 1964
	1,367,459.59	95,714.62	1,463,174.21	
Frobisher Bay Power Plant, N.W.T.	550,000.00	19,061.64	569,061.64	Mar. 31, 1961
Field Power Plant, B.C.	194,438.36	5,561.64	200,000.00	Mar. 31, 1960
Fort Resolution Power Plant, N.W.T.	125,000.00	—	125,000.00	Mar. 31, 1961
PROJECTS UNDER CONSTRUCTION				
Inuvik Utilities Plant, N.W.T.				
(1) Water System Improvements	12,000.00	—	12,000.00	—
(2) Extensions to Utilidor System	350,000.00	—	350,000.00	—
Permanent Power & Central Heating Plant, Frobisher Bay, N.W.T.	2,900,000.00	74,965.74	2,974,965.74	—
Aklavik Power Plant, N.W.T.	60,000.00	—	60,000.00	—
Moose Factory Utilities Plant, Ont.	65,000.00	—	65,000.00	—
Taltson River Hydro-Electric Project, N.W.T.	500,000.00	—	500,000.00	—
	3,887,000.00	74,965.74	3,961,965.74	—
ADVANCES FOR INVESTIGATIONS				
Authority — Sec. 14, N.C.P.C. Act	—	—	—	—
TOTALS	\$27,213,764.71	\$1,007,043.78	\$28,220,808.49	—

POWER COMMISSION

EXHIBIT VII

Plants and Projects, including

Principal repayments to March 31, 1965 incl.

OUTSTANDING PRINCIPAL 31 MAR 64	PARTICULARS OF AMORTIZATION		EFFECTIVE DATE	AMORTIZATION REPAID 31 MAR 65		ADVANCES 1964-65 INCL. INTEREST ACCRUALS TO 31 MAR 65	OUTSTANDING PRINCIPAL 31 MAR 65
	INTEREST RATE	PERIOD (YEARS)		PRINCIPAL	INTEREST		
				\$	\$	\$	\$
6,218,419.61	4 1/8%	29	Apr. 1, 1962	129,654.12	256,509.81	386,163.93	6,088,765.49
140,502.16	5%	20	Apr. 1, 1962	4,994.32	7,025.11	—	135,507.84
167,746.72	5%	30	Apr. 1, 1961	3,068.40	8,387.34	—	164,678.32
49,263.44	5 1/8%	30	Apr. 1, 1963	774.31	2,524.75	—	48,489.13
357,512.32				8,837.03	17,937.20	26,774.23	348,675.29
2,266,548.36	3 1/8%	20	Apr. 1, 1953	221,971.25	70,829.64	—	2,044,577.11
303,240.42	3 3/8%	15	Apr. 1, 1958	29,097.28	10,992.47	—	274,143.14
2,569,788.78				251,068.53	81,822.11	332,890.64	2,318,720.25
111,423.29	3 3/8%	20	Apr. 1, 1957	6,861.16	4,039.09	—	104,562.13
45,722.42	5%	30	Apr. 1, 1961	836.35	2,286.12	—	44,886.07
98,526.87	5 1/8%	30	Apr. 1, 1963	1,548.63	5,049.50	—	96,978.24
255,672.58				9,246.14	11,374.71	20,620.85	246,426.44
6,789,609.94	4%	40	Apr. 1, 1959	92,184.73	271,584.40	363,769.13	6,697,425.21
969,503.86	4 3/8%	30	Apr. 1, 1961	19,477.84	42,415.79	—	950,026.02
34,484.40	5 1/8%	30	Apr. 1, 1963	542.02	1,767.33	—	33,942.38
360,000.00	5 1/8%	30	Apr. 1, 1964	5,303.26	18,450.00	—	354,696.74
45,000.00	5 1/4%	30	Apr. 1, 1964	648.76	2,265.41	—	44,351.24
1,408,988.26				25,971.88	64,898.53	90,870.41	1,383,016.38
545,176.85	5 3/4%	30	Apr. 1, 1961	8,894.23	31,347.67	40,241.90	536,282.62
187,025.28	5%	30	Apr. 1, 1960	3,659.03	9,351.26	13,010.29	183,366.25
119,068.79	5%	30	Apr. 1, 1961	2,177.99	5,953.44	8,131.43	116,890.80
12,000.00	5 1/4%	30	—	—	—	604.11	12,604.11
350,000.00	—	—	—	—	—	—	350,000.00
2,974,965.74	5%	30	—	—	—	145,000.00	3,119,965.74
60,000.00	—	—	—	—	—	(60,000.00)	—
65,000.00	5 1/4%	30	—	—	—	3,412.50	68,412.50
500,000.00	5 1/8%	40	—	—	—	6,120,942.97	6,620,942.97
3,961,965.74				—	—	6,209,959.58	10,171,925.32
50,000.00			—	—	—	—	50,000.00
2,463,228.15			—	\$531,693.68	\$750,779.13	\$1,282,472.81	\$28,141,494.05

NORTHERN CANADA POWER COMMISSION
Statement Re Allocation of Head Office
Assessment for the year ended March 31, 1965

	SNARE	FORT SMITH	MAYO	FORT SIMPSON	WHITEHORSE	INUUVIK	FROBISHER BAY	FIELD	FORT RESOLUTION	MOOSE FACTORY	CONTRACT WORK	TOTAL
Net Costs to be allocated												
— Ottawa Office	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$276,029.64
— Edmonton Office												16,652.00
TOTAL												292,681.64
Ottawa Office — Direct salary charges	15,321.14	9,409.31	6,475.25	6,128.89	3,634.34	23,581.57	11,922.37	2,401.83	2,242.14	11,775.71	19,022.62	111,915.17
Ottawa Office — Residual charges	18,461.05	8,140.16	12,780.02	4,074.24	16,148.86	26,543.19	15,356.40	1,757.58	1,702.80	11,222.36	47,927.81	164,114.47
Edmonton Office — residual charges	616.79	1,850.21	—	3,700.40	—	4,933.83	—	616.79	616.79	—	4,317.19	16,652.00
Total chargeable to Establishment	34,398.98	19,399.68	19,255.27	13,903.53	19,783.20	55,058.59	27,278.77	4,776.20	4,561.73	22,998.07	71,267.62	292,681.64
Transferred to Contract Work	(898.80)	(410.59)	(9.49)	(4,860.44)	(130.57)	(37,118.88)	(19,136.03)	(35.30)	(99.63)	(729.70)	63,429.43	—
Actual Balances	33,500.18	18,989.09	19,245.78	9,043.09	19,652.63	17,939.71	8,142.74	4,740.90	4,462.10	22,268.37	134,697.05	292,681.64
Balances as per Statement of Income & Expense	33,500	18,990	19,246	9,043	19,652	17,939	8,142	4,741	4,462	22,268	134,697	292,680

THE ATLANTIC PROVINCES POWER DEVELOPMENT ACT

Summary by Projects as at March 31, 1965

EXHIBIT IX

PROVINCE - PROJECT	DATE OF COMPLETION	OUTSTANDING BALANCE MARCH 31, 64	ADVANCES APR. 1, 1964 TO MAR. 31, 65	INTEREST ACCRUAL 1964-65 (OR TO DATE OF COMPLETION)	REPAYMENTS, 1964-65		OUTSTANDING BALANCE MAR 31, 1965
					AMORTIZATION	INTEREST	
		\$	\$	\$	PRINCIPAL	\$	\$
Province of New Brunswick							
Bathurst - Dalhousie Transmission Line	Feb. 24, 1965	1,066,227.61	111,491.83	50,995.65	975.35	5,891.10	1,227,739.74
Bathurst Terminal Station	Apr. 1, 1964	773,760.25	—	169.46	6,389.16	38,590.47	767,540.55
Beechwood - Fredericton Transmission Line	Sep. 26, 1962	1,322,877.75	—	—	12,033.61	66,643.89	1,320,844.14
Beechwood Terminal Station Extension	Sep. 26, 1962	338,463.24	—	—	3,055.75	16,923.16	335,407.49
Fredricton Terminal Station	May 12, 1961	1,366,457.16	—	—	14,916.79	61,490.57	1,351,540.37
Grand Falls - Beechwood Transmission Line	Dec. 29, 1961	788,532.00	—	—	7,431.13	39,429.60	781,160.87
Grand Falls Terminal Station Extension	Mar. 31, 1962	76,100.63	—	—	706.54	3,805.03	75,394.09
Grand Lake - Newcastle Transmission Line	Jul. 24, 1963	1,624,525.96	—	—	15,749.07	73,103.67	1,608,776.89
Grand Lake Terminal Station Extension	Apr. 1, 1964	86,148.86	—	21.78	711.39	4,296.72	85,459.25
Grand Lake Thermal Generating Station Extension	Jun. 15, 1964	9,563,954.79	167,659.27	95,996.08	117,119.84	389,065.26	9,710,490.30
Moncton - N.S. Border Transmission Line	Mar. 31, 1962	1,211,369.19	—	—	12,600.30	54,511.61	1,198,768.89
Moncton Terminal Station Extension	Mar. 31, 1965	—	150,000.00	—	—	—	150,000.00
Newcastle - Bathurst Transmission Line	Aug. 4, 1961	957,663.15	—	—	10,325.17	43,094.84	947,337.98
Saint John - Fredericton Transmission Line	Mar. 31, 1962	2,191,468.54	—	—	22,794.99	98,616.08	2,168,673.55
Saint John - Moncton Transmission Line	Mar. 31, 1962	350,884.31	1,436,471.40	45,585.78	—	—	1,832,941.49
Saint John Terminal Station	Mar. 31, 1962	973,046.12	—	—	10,121.33	43,787.08	962,924.79
TOTALS (Province of New Brunswick)		\$22,701,539.56	\$1,865,622.50	\$192,768.75	\$234,930.42	\$ 939,249.08	\$24,525,000.39
Province of Newfoundland							
Whitbourne - Peter's River Transmission Line	Mar. 31, 1963	497,504.03	—	—	4,109.12	26,118.96	493,394.91
Province of Nova Scotia							
Antigonish - West Bay Transmission Line	Mar. 31, 1961	718,362.09	—	—	7,068.54	35,918.10	711,293.55
Bear River - Big Falls Transmission Line	Mar. 31, 1962	56,021.72	—	—	520.11	2,801.09	55,501.61
Cowie Falls - Sable River Transmission Line	Mar. 31, 1962	281,840.94	—	—	2,616.67	14,092.05	279,224.27
Hunter's Mountain - Tarbot Transmission Line	Mar. 31, 1962	382,306.37	—	—	3,549.42	19,115.32	378,756.95
Interconnection with N.S.L. and P. Co. Ltd. System	Mar. 31, 1961	80,949.97	—	—	796.53	4,047.50	80,153.44
Maccan - N.B. Border Transmission Line	Mar. 31, 1961	341,404.05	—	—	3,359.35	17,070.20	338,044.70
Maccan Terminal Station	Aug. 29, 1962	246,987.50	—	—	2,239.72	12,349.38	244,747.78
Ruth Falls - Truro Transmission Line	Mar. 31, 1962	4,004.35	—	—	37.18	200.22	3,967.17
Sissiboo Hydro - Weymouth Falls Transmission Line	Mar. 31, 1962	35,927.50	—	—	333.55	1,796.38	35,593.95
Sissiboo Terminal Station	Aug. 29, 1962	134,627.94	—	—	1,220.82	6,731.40	133,407.12
Trenton - Antigonish Transmission Line	Mar. 31, 1961	714,909.34	—	—	7,034.55	35,745.47	707,874.79
Trenton Terminal Station	Mar. 31, 1962	293,431.31	—	—	2,724.28	14,671.57	290,707.03
Trenton Thermal Generating Station Extension	Mar. 31, 1962	2,862,293.13	—	—	49,009.71	143,114.66	2,813,283.42
Truro - Truro Transmission Line	Mar. 31, 1961	124,869.44	—	—	1,228.69	6,243.47	123,640.75
Truro - Maccan Transmission Line	Mar. 31, 1961	602,874.28	—	—	5,932.16	30,143.71	596,942.12
Truro (Onslow) Terminal Station	Mar. 31, 1962	297,593.82	—	—	2,762.93	14,879.69	294,830.89
West Bay - Hunter's Mountain Transmission Line	Aug. 29, 1962	51,565.97	—	—	467.61	2,578.30	51,098.36
TOTALS (Province of Nova Scotia)		\$ 7,229,969.72	\$	\$	\$ 90,901.82	\$ 361,498.51	\$ 7,139,067.90
TOTALS (Provinces of New Brunswick, Newfoundland and Nova Scotia)		\$30,429,013.31	\$1,865,622.50	\$192,768.75	\$329,941.36	\$1,326,866.55	\$32,157,463.20

NOTE: (' ') in column headed "Date of Completion" indicates project not completed as at March 31, 1965.

STATISTICAL DATA - 1964-1965

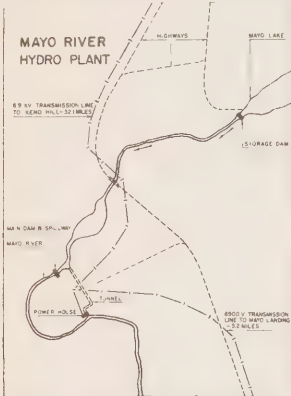
PLANTS	NET PEAK LOAD (KILOWATTS)	GROSS GENERATION KWH X 1000	CONSUMPTION BY NCPC KWH X 1000	POWER KWH X 1000	SALES	HEAT BTU'S X 10 ⁹	WATER GALS X 10 ⁶
THERMAL							
FORT SMITH	1400 (1240)	6153 (5669)	287 (288)	5650 (4980)			
FORT SIMPSON	550 (455)	2192 (1967)	68 (59)	1975 (1584)	25	22	
INUVIK	1940 (1745)	9549 (8596)	1117 (1132)	7368 (6611)	185 (164)	64 (57)	
FROBISHER BAY	1580 (1610)	9381 (7882)	502 (201)	8537 (7840)	8.5	12	
FIELD	203 (175)	952 (860)	13 (15)	838 (764)			
FORT RESOLUTION	144 (123)	519 (459)	31 (21)	471 (421)			
FORT MCPHERSON	225 (201)	679 (638)	19 (18)	600 (565)	12 (12)	8 (7)	
MOOSE FACTORY	305	1661	300	1291	56	29	
AKLAVIK	121	453	17	392			
HYDRO							
SNARE RIVER, N.W.T.	13600 (12900)	83740 (80327)	2438				
Industrial - Primary				41400 (38901)			
Secondary				25494 (25053)			
Wholesale				10364 (9580)			
Retail				760 (426)			
MAYO	5000 (5455)	37341 (34760)	1785				
Industrial - Primary				20097 (15912)			
Secondary				13068 (12961)			
Wholesale				109 (73)			
Retail				1008 (839)			
WHITEHORSE RAPIDS	10700 (9500)	39580 (37372)	1582				
Wholesale				11139 (9714)			
Primary				11032 (12876)			
Secondary				14924 (12821)			

INUVIK UTILITY PLANT
 1 STEAM TURBINE - 600 KW
 5 DIESEL UNITS - 2900 KW
 TOTAL CAPACITY - 3500 KW
 3-30,000 LB PER HR BOILERS

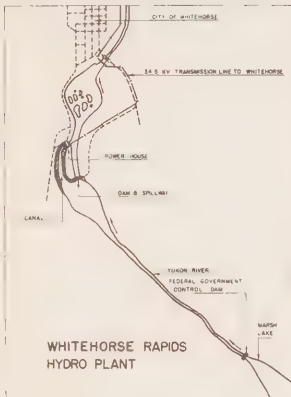
AKLAVIK DIESEL PLANT
 5 UNITS - 470 KW TOTAL

FORT McPHERSON DIESEL PLANT
 2 UNITS - 225 KW TOTAL

MAYO RIVER
 HYDRO PLANT

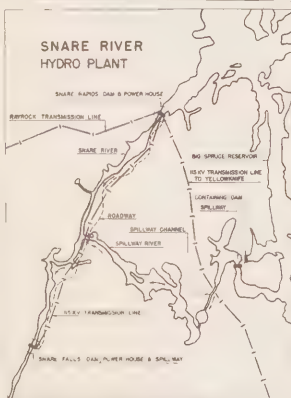


WHITEHORSE RAPIDS
 HYDRO PLANT



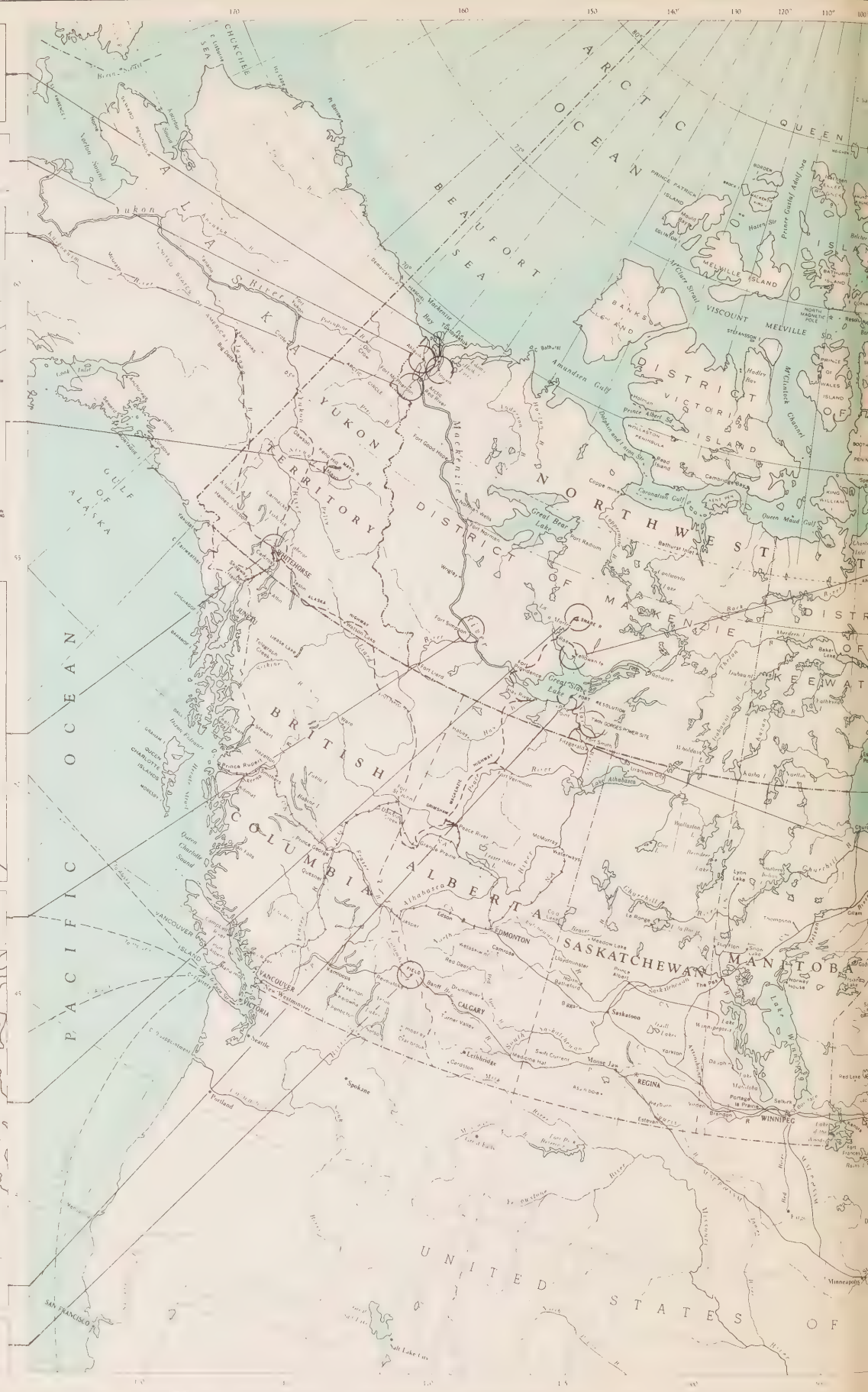
FORT SIMPSON DIESEL PLANT
 4 UNITS - 1075 KW TOTAL

SNARE RIVER
 HYDRO PLANT



FORT RESOLUTION DIESEL PLANT
 3 UNITS - 325 KW TOTAL

FIELD DIESEL PLANT
 3 UNITS - 400 KW TOTAL



CANADA

MILES 100 50 0 100 200 300 400 500 MILES
KILOMETRES 100 0 100 200 300 400 500 600 700 800 KILOMETRES

Federal Capital.....●	Provincial Capital.....●
Railways.....
Highways.....

Federal Capital.....●	Provincial Capital.....●
Railways.....	
Highways.....	

[illegible]

FROBISHER BAY UTILITY PLANT
 1 GAS TURBINE - 1500 KW
 2 DIESEL UNITS - 2000 KW
 TOTAL CAPACITY - 3500 KW
 2-15,000,000 BTU/HR BOILERS
 1-12,000,000 BTU/HR
 WASTE HEAT BOILER

MOOSE FACTORY UTILITY PLANT
2 STEAM TURBINES - 200 KW
3 DIESEL UNITS - 650 KW
TOTAL CAPACITY - 850 KW
3 - 6,666,666 BTU/HR BOILERS



Draft tube form for Taltson River Hydro Electric Development Powerhouse



Temporary enclosure to enable placement and curing of concrete during sub zero temperature.

CAI
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-A 56



John R. ...
Commissioner

18TH ANNUAL REPORT



1965 - 1966

GREAT SLAVE
LAKE

SLAVE RIVER

PINE POINT



AERIAL VIEW OF PINE POINT TOWNSITE
(Photo by Cominco Ltd.)

BUFFALO RIVER

115 KV TRANSMISSION LINE



PINE POINT MINE



**GUYED TRANSMISSION LINE
TOWER**

NORTHWEST TERRITORIES

ALBERTA



ANNUAL REPORT
of the
NORTHERN
CANADA POWER
COMMISSION
for the Fiscal Year
ended March 31, 1966

OTTAWA, CANADA



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NORTHERN CANADA POWER COMMISSION

Head Office

251 Bank Street

Ottawa 4, Canada

Ottawa, June 30, 1966.

The Honourable Arthur Laing, M.P.,
Minister of Northern Affairs and
National Resources,

Ottawa, Ontario.

Dear Sir,

In accordance with Section 24 of the Northern Canada Power Commission Act, Chapter 42, 4-5, Eliz. II, I have the honour to submit the Annual Report of the Northern Canada Power Commission for the fiscal year ending March 31, 1966.

The highlight of the year was the commissioning of the 18000 kw Taltson River Hydro-Electric Development, on October 29, 1965, by the Honourable E. J. Benson, Minister of National Revenue. This development, the Commission's fifth hydro plant, with its associated transmission line to Fort Smith and Pine Point is to date the largest power development in Canada, north of the 60th parallel.

During the year the five hydro and ten thermal power plants operated by the Commission produced over 213 million kilowatt hours of electricity and the equivalent of 284 million pounds of steam; these quantities are roughly equivalent to the power consumed in a medium sized city and the heating of some 2500 to 3000 average sized residences in the more temperate parts of Canada. Revenue from sales of utility services totalled \$4,157,485, and exceeded expense by \$567,931. Nearly \$212,000 of the gross surplus was produced by the new Taltson hydro plant which was free of capital charges during the five months of operation in 1965-1966 and will be assigned to Contingency Reserve.

Power rates in Fort Smith, Yellowknife, Fort Simpson, Whitehorse and Inuvik were reduced during the year.

Over the year the Commission continued to review the future requirements of each of its existing plants and to plan accordingly for possible expansion when and where necessary. At the same time a number of studies and investigations were carried out into the possible requirements of power at new locations.

Respectfully submitted,

E. A. Côté,
Chairman.

"THE NORTHERN CANADA POWER COMMISSION operates under authority of the Northern Canada Power Commission Act (4-5 Eliz. II, Chap. 42). The Commission is empowered to construct and operate public utility plants in the Northwest Territories, Yukon Territory, and, subject to approval of the Governor General in Council, elsewhere in Canada. It is a requirement of the authorizing Act that projects undertaken by the Commission shall be self-sustaining, consequently rates charged for utilities supplied must provide sufficient revenue to cover interest on investment, repayment of principal over a period of years, operating and maintenance expenses and a contingency reserve. The Commission is thus a Federal Government Agency concerned with the construction and management of public utilities on a commercial basis."

NORTHERN CANADA POWER COMMISSION

Head Office : 251 Bank Street, Ottawa, Canada

CHAIRMAN

E. A. Côté

MEMBERS

T. M. Patterson

J. F. Parkinson

GENERAL MANAGER — CHIEF ENGINEER

E. W. Humphrys

SECRETARY — COMPTROLLER

T. A. Stott

ANNUAL REPORT
of the
NORTHERN CANADA POWER COMMISSION
For the Fiscal Year Ended March 31, 1966

The Commission's operations presently comprise five hydro generating stations, six independent diesel electric plants, and three thermal plants forming part of "Utility" plants which supply power, central heat and water and sewerage service.

Gross electrical generation of all plants increased by 11% over the previous year, and totalled 213,308,000 kwhr. Because of rate reductions in certain areas total income increased only 6% and amounted to \$5,299,004; overall expense rose by 5.5%.

A tabulation of statistical data pertaining to the individual plants appears on page 11 of this report. Operational highlights of the year are as follows :

The Taltson River Hydro-Electric Development was commissioned on October 29, 1965 by the Honourable E. J. Benson, Minister of National Revenue. This, the Commission's fifth hydro plant, is located at the Twin Gorges on the Taltson River approximately 35 miles northeast of Fort Smith, N.W.T. The development comprises an 18,000 kw single unit generating station remotely controlled from a control centre in Fort Smith, and a 171 mile 115 kv transmission line employing guyed aluminum towers, extending from the plant to Fort Smith and the Pine Point Mines Limited property near Great Slave Lake. During the initial five month period, the Twin Georges Plant generated nearly 23 million kwhr and supplied the communities of Fort Smith and Pine Point, and the Pine Point mining operation without experiencing any operating difficulties.

**HYDRO
STATIONS**

Despite a slight increase in demand and total generation supplied by the Yellowknife (Snare River) Hydro system, the value of sales decreased from the preceding year due to a reduction in secondary (electric boiler) power consumption and the effect of a rate reduction introduced in the preceding year. Technical difficulties encountered during the conversion of the system in the previous year to remote control operation, were overcome and remote control of both the Snare Rapids and Snare Falls hydro plants from Yellowknife became fully operational. Two, two unit single staff apartment buildings of pre-fabricated construction were erected in Yellowknife to provide accommodation for operating staff now stationed in Yellowknife.

The Mayo River Hydro Plant in the Yukon experienced a 7% decrease in total generation and sales compared with the previous

THERMAL PLANTS AND UTILITIES

year, which is attributable to reduction in electric boiler power consumption. In October 1965 No. 2 generator turbine developed a severe vibration necessitating a shutdown for inspection; temporary repairs were made to permit resumption of operation and plans are in hand to carry out permanent repairs requiring complete dismantling of the unit, in the summer of 1966. Close surveillance of the storage dam at Mayo Lake, and the main spillway sluice structure at the plant site was continued during the year. A detailed inspection is to be carried out during the low water period of 1966 to determine the nature and extent of work required to remedy deterioration.

The Whitehorse Rapids Hydro Plant at Whitehorse, experienced a 5% increase in sales despite a 20% reduction of the primary power rate at the beginning of the year. A substantial increase in power demand is anticipated arising from a copper mining operation within a few miles of Whitehorse, scheduled to be put into production in the latter part of next year; this, together with indicated continued increase in demand of the Whitehorse area, will permit a further rate reduction in the ensuing year. Longitudinal cracking of the canal embankment continues to be of concern and a study and research program was initiated to ascertain specific data in regard to frost penetration with a view to remedial measures.

With the advent of the Taltson Hydro-Electric Development, the role of the Fort Smith Diesel Plant, N.W.T., was reduced to that of standby for the Fort Smith area. This plant, the first diesel plant to be built by the Commission, was commissioned in 1950 with an installed capacity of 350 kw; during the first year of operation the peak load was 130 kw and the net power rate was 10¢/kwhr. Since that time several additions were made to the plant's capacity which ultimately reached 2300 kw. The current peak demand is approximately 1600 kw and with the advent of hydro supply from the Taltson development the average cost of power in Fort Smith was reduced to approximately 3¢/kwhr. Since some of the existing diesel equipment is not essential for standby purposes, two fuel storage tanks are being moved to Fort Simpson, and plans are in hand to transfer the 1000 kw heavy duty diesel unit to Inuvik, N.W.T. in 1967. A two year program of distribution system rebuilding has been started and relocation of the diesel standby plant in the powerhouse structure to be erected adjacent to the Taltson Hydro Control Centre is planned for 1967.

The combination of only a 2% rise in kilowatt hour sales, a 3% increase in expenses, and a rate reduction, resulted in minor operational deficit for the Fort Simpson Diesel Plant, N.W.T., however, it is anticipated that load growth during the ensuing year will overcome this situation. Operation of the school and hostel central heating plant and the domestic water supply system by the Commission was continued under a contract with the Department of Northern Affairs and National Resources. This work included planning the conversion of the boiler plant from light to heavy oil operation, together with the necessary heavy oil fuel storage facilities; actual conversion is scheduled for 1966 and will result in substantial saving in operating costs. Some extensions to the water system were constructed and because of trouble experienced during the past winter with frozen lines, steps are being taken to provide more positive circulation in the system to prevent reoccurrence.

At Fort McPherson, N.W.T. the piling, floor and superstructure for the new powerhouse was completed, and one of the 250 kw generating units transferred from Frobisher Bay was installed. The other diesel units and auxiliary equipment will be relocated in the new plant during 1966. On completion of this plant, power supply

in this community will be placed on a fully self-sustaining self-liquidating basis under Commission ownership; operation of the hostel heating plant and domestic water supply and sewage disposal systems by the Commission will continue under a contract with the Department of Northern Affairs and National Resources. Cost of this latter work, which includes maintenance of all mechanical/electrical equipment in government owned premises and operation of the central fuel storage/distribution system, including general overhead, less revenue derived from sales to others, are recoverable from the Department; this activity is classed as contract work and totalled \$222,862.23 for the year.

Operation of the two small plants at Fort Resolution and Aklavik, N.W.T., the latter under a Department of Northern Affairs and National Resources contract, was normal and both experienced an increase of over 10% in energy output. A prebuilt two bedroom residence was purchased and erected to provide modern accommodation for the plant superintendent at Fort Resolution.

Misfortune struck the Field, B.C. operation when the plant superintendent, Mr. T. P. Mercredi, lost his life in an automobile accident in July 1965. Abnormal expense, arising out of Mr. Mercredi's death, together with accumulative maintenance that had been purposely deferred, resulted in a deficit being recorded at this plant for the year under review, despite a modest increase in energy output.

Peak loads at both Field and Fort Resolution are nearing the stage when additional generating capacity will be required to ensure firm supply and the situation is being kept under review.

The Inuvik Utilities Plant, N.W.T. experienced a satisfactory year. Despite a reduction in power rates a substantial surplus was recorded permitting a further transfer to the Contingency Reserve fund which is still short of the target figure. During the year the electrical distribution system was extended to service a co-operative housing project. The Commission's composite office/stores/shop building was completed and occupied. Due to the continuing increase in electrical load and projected construction plans for a new school and other premises, additional generating capacity will be required in the near future. Plans are being developed to extend the powerhouse to accommodate a 1000 kw heavy duty diesel set to be transferred from Fort Smith, and plans are in hand to increase the pumping facilities of the domestic water system.

To fully centralize the supply of heat and power to federal government premises at Frobisher Bay a boiler from the abandoned Baffin Island Air Station and another boiler, together with a 500 kw diesel generating unit from the Federal Building powerhouse were relocated in the Commission's Central Heating and Power Generating Station. A steam and condensate return line approximately 5200 feet long was constructed to transmit heat from the central plant to the Federal Building, permitting the closing down of the separate Federal Building heating plant, with resultant overall economy in operating costs. Extension of the domestic water line from the water treatment plant to connect with the existing water supply line to the Federal Building was completed thereby providing the Federal Building with improved water supply.

Moose Factory Utilities Plant experienced a 6% increase in power output and sales. Operating costs for the year include rental paid to the Department of National Health and Welfare in respect to plant facilities (in lieu of capital charges) but do not include the value of fuel consumed from supplies on hand when the plant was

turned over to the Commission on April 1, 1964; thus the cost of 3000 tons of coal valued at approximately \$62,000 is not recorded as a 1965-1966 operating expense and consequently the surplus appears abnormally high. However, surplus funds at the credit of this operation are being utilized as working capital, primarily to finance future fuel inventories and will, in the future, be allocated to Contingency Reserve account as circumstances permit. During the year a 105,000 gallon fuel oil tank was installed, which will improve the handling and storage of fuel for the diesel generating portion of the plant. A Commission owned single residence and four unit apartment building were constructed and occupied. Plans are in hand to increase the diesel generating capacity during the forthcoming year.

The Commission carried out studies in connection with the supply of power at various Northern communities; based on the findings plans are being developed towards the establishment of Commission operated plants at Dawson, Y.T. and Cambridge Bay, N.W.T. during the forthcoming fiscal year, and Coppermine, N.W.T. in the following year.

PERSONNEL

At year end full time staff totalled 250 comprising 45 at Ottawa head office, 2 in the Edmonton Office and 203 at the thirteen operating plants. Payroll for the year (including short term casual employees) totalled \$1,609,021 as compared to \$1,483,800 for the previous year; these figures include recoverable labour expenses in respect to contract work on behalf of government departments and others, which increased from \$361,641 in the previous year to \$398,906. This year saw the retirement of Mr. J. H. Barwise, Superintendent, Whitehorse Rapids Hydro Plant, after seventeen years of faithful service with the Commission. Joining the Commission shortly after its inception in 1948 as Chief Operator of the Snare Rapids Hydro Plant, Mr. Barwise was one of the first employees of the Commission; he carries the Commission's best wishes for many years of health and happiness in his retirement.

CONTRACT WORK

The Aklavik power plant, the Fort McPherson utilities plant, the Fort Simpson Hostel/School central heating plant, and the water treatment and Federal Building heating plants at Frobisher Bay were operated by the Commission on behalf of the Department of Northern Affairs and National Resources. In addition, miscellaneous electrical and mechanical services were provided including occasional installation and construction work for government departments and others at these and other locations in the Northwest Territories. All contract work was done on a cost repayable basis, including a surcharge on labour expense to offset general overhead, listed as "Head Office Assessment" under "Contract Work" in Exhibit V of the Financial Statements that form part of this report. This surcharge totalling \$141,297 reduced the general overhead assessment of the several utility operations from which it was derived as follows:

Yellowknife/Snare River, N.W.T.	\$ 89
Mayo River, Y.T.	46
Fort Simpson, N.W.T.	39,907
Inuvik, N.W.T.	32,355
Frobisher Bay, N.W.T.	28,247
Fort McPherson, N.W.T.	28,195
Fort Resolution, N.W.T.	1
Aklavik, N.W.T.	9,840
Moose Factory, Ontario	952
Taltson River, N.W.T.	62
Head Office (Ottawa)	1,603
Total	<u>\$141,297</u>

Funds to finance the construction of power projects are advanced to the Commission by the Minister of Finance as long term loans repayable by amortization. Commission owned utilities are operated on a self-sustaining basis and profits or losses are not transferable between plants. Power rates are established at the level necessary to meet operating costs in accordance with Section 10 of the Act. Charges shown as depreciation include principal repayments, depreciation at 3½ % per annum on assets acquired from earnings under the provisions of Section 22 of the Act and depreciation at 10% per annum on furniture and equipment in the Edmonton and Ottawa offices. The Commission's fiscal year is the 12 month period ending March 31.

FINANCIAL

Because charges in respect to interest and amortization of capital do not become applicable to the Taltson River Hydro-Electric Development until next year, operating revenue for the five month period (November 1965 to March 1966) exceeded expense by \$211,856 which is earmarked as Contingency Reserve funds; as noted below, \$100,000 of this amount has been assigned to the Contingency Reserve in the current year and the balance has been temporarily carried forward as surplus to provide working capital.

Taltson River Hydro Electric Development

Allocations of earned surplus to the Contingency Reserve Fund during the year 1965-1966 were made as follows:

Contingency Reserve

Yellowknife/Snare River, N.W.T.	\$ 3,000
Frobisher Bay, N.W.T.	11,000
Moose Factory, Ontario	7,000
Taltson River Hydro Development, N.W.T.	100,000

The Atlantic Provinces Power Development Act (1958) provides for agreements between the Government of Canada and the Governments of the Atlantic Provinces, and for further agreements covering specific projects between the Northern Canada Power Commission and the respective provincial power commission whereby assistance may be provided in respect to the generation and transmission of electric power. Such assistance takes the form of long term loans to cover the cost of constructing thermal power plants and high voltage transmission lines, and the payment of a subvention on coal mined and used within the Atlantic Provinces for the generation of electricity. Loans in connection with thermal power plants are repayable over the 30 year period following completion and those relating to transmission lines are repayable over 40 years. The Commission administers the agreements pertaining to the financing, constructing and equipping of thermal power plants and high voltage transmission lines; particulars of these transactions are provided by Exhibit IX of this report.

THE ATLANTIC PROVINCES POWER DEVELOPMENT ACT

From December 1, 1957 to November 30, 1964 the coal subvention authorized by this Act was paid at the rate of 7.43 cents per million BTU's, based on the heating value of coal used for the generation of electric power; during this period payment of the subvention was administered by the Dominion Coal Board, in consultation with Commission staff. Effective December 1, 1964 the basis for payment was changed to a rate of 1.05 mils per kilowatt hour of electricity generated from eastern coal, and administration of the subvention payments subsequently transferred to the Commission. Funds for this subvention are provided by parliamentary vote. In the fiscal year ending March 31, 1966 payments totalling \$1,279,805.12 and \$1,895,337.77 were made to the New Brunswick Electric Power Commission and the Nova Scotia Power Commission respectively, in relation to coal used for generation of electricity in the period December 1, 1964 to February 28, 1966.

NORTHERN CANADA POWER COMMISSION OPERATIONS

Yellowknife (Snare River) Hydro System, N.W.T.

Snare Rapids Plant
1 Unit — 8,350 HP
Snare Falls Plant
1 Unit — 9,200 HP
Yellowknife Standby Diesel Plant
1 Unit — 1,000 KW

Mayo River Hydro Plant, Y.T.

2 Units — 6,000 HP Total

Whitehorse Rapids Hydro Plant, Y.T.

2 Units — 15,000 HP Total

Taltson River Hydro Plant, N.W.T.

1 Unit — 25,000 HP

Fort Smith Standby Diesel Plant, N.W.T.

5 Units — 3,250 KW Total

Fort Simpson Diesel Plant, N.W.T.

Central Heating, Water and Sewerage Systems operated by the Commission on behalf of the Department of Northern Affairs and National Resources.
4 Units — 1,075 KW Total

Inuvik Utilities Plant, N.W.T.

Power, Central Heating, Water and Sewerage Systems.
1 Steam Turbine — 600 KW
5 Diesel Units — 2,900 KW
Total Capacity — 3,500 KW

Frobisher Bay Utilities Plant, N.W.T.

Power and Central Heating Plant.
Domestic Water Treatment Plant oper-

ated on behalf of the Department of Northern Affairs and National Resources.

1 Gas Turbine — 1,500 KW
3 Diesel Units — 2,500 KW
Total Capacity — 4,000 KW
2 — 15,000,000 BTU/hr Boilers
1 — 12,000,000 BTU/hr Waste Heat Boiler
2 — 13,000 lbs. Steam/hr Boilers

Field Diesel Plant, B.C.

3 Units — 400 KW Total

Fort Resolution Diesel Plant, N.W.T.

3 Units — 325 KW Total

Fort McPherson Utilities Plant, N.W.T.

Diesel Generating Plant, Hostel Heating Plant, Water Supply and Sewerage Systems operated by the Commission on behalf of the Department of Northern Affairs and National Resources.
4 Units — 750 KW Total

Aklavik Diesel Plant, N.W.T.

Operated by the Commission on behalf of the Department of Northern Affairs and National Resources.
5 Units — 470 KW Total

Moose Factory Utilities Plant, Ont.

Central Power, Heating, Water Pumping and Treatment and Sewage Disposal Plants.
2 Steam Turbines — 200 KW
3 Diesel Units — 650 KW
Total Capacity — 850 KW
3 — 6,666,666 BTU/hr Boilers

OPERATING STATISTICS 1965-1966

Plants	Net Peak Load (Kilowatts)	Gross Generation KWH x 1000	Power Sales KWH x 1000	Heat Sales BTU's x 10 ⁹	Water Sales Gals x 10 ⁶
THERMAL					
Fort Smith	1600	(1400)	6784*	(6153)	6199
Fort Simpson	565	(550)	2278	(2192)	2013
Inuvik	2135	(1940)	10426	(9549)	8062
Frobisher Bay	1560	(1580)	9682	(9381)	8664
Field	207	(203)	1002	(952)	884
Fort Resolution	154	(144)	592	(519)	537
Fort McPherson	230	(225)	724	(679)	630
Moose Factory	330	(305)	1744	(1661)	1257
Aklavik	140	(121)	517	(453)	444
HYDRO					
Snare River	13900	(13600)	84075	(83740)	
Industrial - Primary					42070
- Secondary					22658
Wholesale					11358
Retail					811
Mayo	5488	(5000)	34670	(37341)	
Industrial - Primary					20407
- Secondary					10514
Wholesale					114
Retail					1012
Whitehorse Rapids	10400	(10700)	41227	(39580)	
Wholesale					12717
Primary					11118
Secondary					15176
Taltson	11816		22949		
Industrial - Primary					11328
- Secondary					3032
Wholesale					3362
Retail					746

* Includes 3,362,010 kwhr supply from Taltson Hydro Development November 1965 to March 1966.

() 1964-1965

FINANCIAL STATEMENTS

Included in this report is the Consolidated Balance Sheet of the Commission (Exhibit I) as certified by the Auditor General of Canada together with related Statements of Income and Expense (Exhibit II) and Statement of Earned Surplus (Exhibit III) which reflect the financial position of the Commission's accounts as of March 31, 1966. Also included, to provide details in relation to the individual plants and projects are supplementary statements as follows:

- Exhibit IV — Assets and Liabilities, by plants and projects, as at March 31, 1966.
- Exhibit V — Income and Expense, by plants, for the fiscal year ended March 31, 1966.
- Exhibit VI — Earned Surplus, by plants, for the fiscal year ended March 31, 1966.
- Exhibit VII — Advances, by plants and projects, including interest accruals and principal repayments to March 31, 1966 inclusive.
- Exhibit VIII — Allocation of Head Office Assessment for the fiscal year ended March 31, 1966.
- Exhibit IX — Projects authorized under the Atlantic Provinces Power Development Act as of March 31, 1966.

AUDITOR GENERAL OF CANADA

Ottawa, June 21, 1966.

The Honourable Arthur Laing,
Minister of Northern Affairs and
National Resources,
Ottawa.

Sir,

I have examined the accounts and financial statements of Northern Canada Power Commission for the year ended March 31, 1966. In compliance with the requirements of section 87 of the Financial Administration Act, I report that, in my opinion :

- (a) proper books of account have been kept by the Commission;
- (b) the financial statements of the Commission
 - (i) were prepared on a basis consistent with that of the preceding year and are in agreement with the books of account,
 - (ii) in the case of the balance sheet give a true and fair view of the state of the Commission's affairs as at the end of the financial year, and
 - (iii) in the case of the statement of income and expense, give a true and fair view of the income and expense of the Commission for the financial year; and
- (c) the transactions of the Commission that have come under my notice have been within the powers of the Commission under the Financial Administration Act and any other Act applicable to the Commission.

Yours faithfully,

A. M. Henderson,
Auditor General of Canada.

NORTHERN CANADA

(Established by the Northern

Balance Sheet as at

(with comparative figures for 1965)

Assets

Current Assets :	1966	1965
Cash	\$ 192,988	\$ 1,731,647
Accounts receivable	1,606,512	1,507,771
Inventories of maintenance and operating supplies, at cost	1,494,089	1,374,368
Total Current Assets	3,293,589	4,613,786
Bonds held as Consumers' Security Deposits	75,000	75,000
Investment in Government of Canada Bonds, at amortized cost, including accrued interest (market value \$1,008,425)	1,013,727	1,014,529
Capital Assets, at cost :		
Power plants	28,871,747	19,577,255
Transmission and distribution facilities	6,717,021	3,375,384
Staff dwellings, warehouses and miscellaneous buildings	1,178,029	967,245
Communication, transportation and other equipment	659,854	594,057
Projects under construction	800,092	9,451,656
	38,226,743	33,965,597
Less : Accumulated depreciation (equivalent to repayment of principal of advances from the Government of Canada)	6,901,613	6,336,259
	31,325,130	27,629,338
Central heating, water and sewerage and fire alarm systems at Inuvik, Northwest Territories	7,003,445	7,003,445
Total Capital Assets	38,328,575	34,632,783
	42,710,891	40,336,098

Certified correct :

(Sgd.) T. A. Stott
Secretary-Comptroller

Approved :

(Sgd.) E. A. Côté
Chairman

Note : The Commission administers loans, which amounted to \$35,632,308 as at March 31, 1966, made by the Government of Canada pursuant to agreements entered into under the Atlantic Provinces Power Development Act.

POWER COMMISSION

(Canada Power Commission Act)

March 31, 1966

(as at March 31, 1965)

Liabilities

Current Liabilities :	1966	1965
Accounts payable	\$ 519,316	\$ 1,207,473
Contractors' holdbacks	169,806	287,576
Total Current Liabilities	689,122	1,495,049
Consumers' and other Security Deposits	91,902	86,582
Proprietary Equity of the Government of Canada :		
Advances, including \$50,000 for investigation of projects	30,748,963	28,141,494
Equity represented by cost of :		
Central heating, water and sewerage and fire alarm systems at Inuvik, Northwest Territories, financed by parliamentary appropriation	7,003,445	7,003,445
Extension, expansion and improvements of capital assets financed from earnings	559,811	314,866
Reserve for contingencies	2,141,000	2,020,000
Earned surplus	1,476,648	1,274,662
	41,929,867	38,754,467
	42,710,891	40,336,098

I have examined the above Balance Sheet and the related Statement of Income and Expense and have reported thereon under date of June 21, 1966 to the Minister of Northern Affairs and National Resources.

A. M. Henderson
Auditor General of Canada

NORTHERN CANADA POWER COMMISSION

Statement of Income and Expense for the year ended March 31, 1966

(with comparative figures for the year ended March 31, 1965)

Income	1966	1965
Sales of power	\$3,320,273	\$3,111,303
Income arising from construction, maintenance and operation of facilities for government departments and others	1,036,780	965,995
Sales of heat	732,879	733,802
Water and sewerage services	104,333	112,511
Interest	65,979	56,690
Miscellaneous	38,760	35,503
	<u>5,299,004</u>	<u>5,015,804</u>
Expense		
Operating :		
Salaries and wages	\$1,337,590	1,223,102
Fuel and lubricants	945,929	770,951
Materials and supplies	247,619	329,167
Employees' board and accommodation (net)	159,448	132,937
Maintenance and improvements	149,920	198,673
Travel and removal	83,701	85,997
Maintenance of trucks, tractors, etc.	43,827	33,689
Tools and miscellaneous equipment	36,956	21,561
Plant, line and equipment rentals	29,501	27,327
Telegrams, telephone and postage	18,489	15,815
Insurance	13,333	12,196
Miscellaneous	37,181	35,690
	<u>3,103,494</u>	<u>2,887,105</u>
Administrative :		
Salaries	271,431	260,698
Office rent	23,866	20,649
Miscellaneous	26,124	20,259
	<u>321,421</u>	<u>301,606</u>
Interest on advances from the Government of Canada	731,047	750,779
Depreciation (equivalent to repayment of principal of advances from the Government of Canada)	575,111	548,450
	<u>4,731,073</u>	<u>4,487,940</u>
NET INCOME	<u>567,931</u>	<u>527,864</u>

NORTHERN CANADA POWER COMMISSION

Statement of Earned Surplus for the year ended March 31, 1966

Balance as at April 1, 1965		\$1,274,662
Deduct :		
Transfers to :		
Reserve for contingencies	\$121,000	
Equity represented by cost of extension, expansion and improvements of capital assets	244,945	
		<u>365,945</u>
		908,717
Add : Net income for the year		567,931
Balance as at March 31, 1966		<u><u>1,476,648</u></u>

NORTHERN CANADA POWER COMMISSION

Assets and Liabilities, by Plants and Projects, as at March 31, 1966

ASSETS	YELLOWKNIFE/ SNARE RIVER PLANTS	FORT SMITH PLANT	MAYO PLANT	FORT SIMPSON PLANT	WHITE- HORSE PLANT	INUUVIK PLANT	FROBISHER BAY PLANT	FORT MCPHERSON PROJECT	FIELD PLANT	FORT RESOLUTION PLANT	MOOSE FACTORY PLANT	TALSON RIVER PLANT	EDMONTON AND HEAD OFFICES	CONTRACT WORK	TOTAL
Current Assets :															
Cash :															
Capital account	\$ (64,397)	\$ (2,252)	\$ (20,585)	\$ (3,710)	\$ 96,547	\$ (165,750)	\$ 302,545	\$ (162,702)	\$ 151	\$ (20,501)	\$ —	\$ 11,755	\$ (81,027)	\$ —	\$ (109,926)
Special account	376,407	20,447	388,957	(95,311)	248,711	(392,235)	(146,920)	—	24,889	(10,970)	(146,720)	(19,279)	691,002	(636,064)	302,914
Accounts receivable	112,375	41,182	36,060	42,296	87,669	290,813	129,504	—	5,103	15,120	95,455	224,651	31,090	495,194	1,606,512
Inventories of maintenance and operating supplies, at cost	45,700	62,748	25,852	73,097	14,678	467,229	388,782	—	3,567	13,663	242,679	6,484	8,740	140,870	1,494,089
Total Current Assets	470,085	122,125	430,284	16,372	447,605	200,057	673,911	(162,702)	33,710	(2,688)	191,414	223,611	649,805	—	3,293,589
Bonds held as Consumers' Security Deposits	50,000	—	25,000	—	—	—	—	—	—	—	—	—	—	—	75,000
Investment in Government of Canada Bonds, at amortized cost, including accrued interest (market value \$1,008,425)	284,044	22,583	200,738	11,041	213,786	170,627	100,369	—	6,023	4,014	502	—	—	—	1,013,727
Capital Assets, at cost :															
Power Assets	6,980,424	412,559	3,823,408	254,368	6,746,866	882,744	2,563,920	—	116,085	101,156	14,802	6,975,415	—	—	28,871,747
Transmission and distribution fa- cilities	1,788,331	154,944	573,315	67,776	251,186	440,227	761,351	—	28,222	20,247	10,790	2,620,632	—	—	6,717,021
Staff dwellings, warehouses and miscellaneous buildings	408,918	28,760	283,936	19,189	77,880	63,012	134,724	—	45,838	16,779	98,993	—	—	—	1,178,029
Communication, transportation and other equipment	308,865	12,462	101,701	18,868	20,199	41,343	64,910	—	9,073	6,515	9,483	23,091	43,344	—	659,854
Projects under construction	—	—	—	—	—	564,710	—	162,702	—	—	3,410	—	69,270	—	800,092
	9,486,538	608,725	4,782,360	360,201	7,096,131	1,992,036	3,524,905	162,702	199,218	144,697	137,478	9,619,138	112,614	—	38,226,743
Less : Accumulated depreciation; Equivalent to repayment of principal of advances from the Government of Canada	3,220,048	126,409	2,704,210	61,310	598,447	107,315	42,185	—	20,476	10,396	—	—	—	—	6,890,796
On assets acquired under Section 22 of the Act	23,276	24,729	376	6,708	—	—	—	—	—	514	—	—	19,555	—	75,158
Cost, less proceeds on assets written- off or sold	(11,744)	(17,382)	(12,838)	(5,533)	(7,322)	(122)	(6,578)	—	(630)	(2,192)	—	—	—	—	(64,341)
	3,231,580	133,756	2,691,748	62,485	591,125	107,193	35,607	—	19,846	8,718	—	—	19,555	—	6,901,613
Central heating, water and sewerage and fire alarm systems at Inuvik, Northwest Territories	6,254,958	474,969	2,090,612	297,716	6,505,006	1,884,843	3,489,298	162,702	179,372	135,979	137,478	9,619,138	93,059	—	31,325,130
Total Capital Assets	—	—	—	—	—	7,003,445	—	—	—	—	—	—	—	—	7,003,445
	6,254,958	474,969	2,090,612	297,716	6,505,006	8,888,288	3,489,298	162,702	179,372	135,979	137,478	9,619,138	93,059	—	38,328,575
	7,059,087	619,677	2,746,634	325,129	7,166,397	9,258,972	4,263,578	—	219,105	137,305	329,394	9,842,749	742,864	—	42,710,891

NORTHERN CANADA POWER COMMISSION

Assets and Liabilities, by Plants and Projects, as at March 31, 1966

LIABILITIES	YELLOWKNIFE/ SNARE RIVER PLANTS	FORT SMITH PLANT	MAYO PLANT	FORT SIMPSON PLANT	WHITE- HORSE PLANT	INUVIK PLANT	FROBISHER BAY PLANT	FORT MCPHERSON PROJECT	FIELD PLANT	FORT RESOLUTION PLANT	MOOSE FACTORY PLANT	TALTSON RIVER PLANT	EDMONTON AND HEAD OFFICES	CONTRACT WORK	TOTAL
Current Liabilities:															
Accounts payable	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —	\$519,316	\$ —	\$ 519,316
Contractors' deposits	—	—	—	—	—	—	—	—	—	—	—	—	169,806	—	169,806
Total Current Liabilities	—	—	—	—	—	—	—	—	—	—	—	—	689,122	—	689,122
Consumers' and other security deposits	50,000	4,535	25,740	1,410	—	2,880	2,179	—	591	825	—	—	3,742	—	91,902
Proprietary Equity of the Government of Canada:															
Advances, including \$50,000 for investigation of projects	5,953,763	339,395	2,059,660	236,810	6,601,553	1,719,093	3,791,843	—	179,524	114,604	71,825	9,630,893	50,000	—	30,748,963
Equity represented by cost of:															
Central heating, water and sewerage and fire alarm systems at Inuvik, Northwest Territories, financed by parliamentary appropriation	—	—	—	—	—	7,003,445	—	—	—	—	—	—	—	—	7,003,445
Extension, expansion and improvements of capital assets financed from earnings	260,073	158,050	10,743	63,904	—	—	—	—	—	1,388	65,653	—	—	—	559,811
Reserve for contingencies	569,000	45,000	400,000	22,000	426,000	340,000	211,000	—	12,000	8,000	8,000	100,000	—	—	2,141,000
Earned surplus	226,251	72,697	250,491	1,005	138,844	193,254	258,556	—	26,990	12,488	183,916	111,856	—	—	1,476,648
	7,009,087	615,142	2,720,894	323,719	7,166,397	9,256,092	4,261,399	—	218,514	136,480	329,394	9,842,749	50,000	—	41,929,867
	7,059,087	619,677	2,746,634	325,129	7,166,397	9,258,972	4,263,578	—	219,105	137,305	329,394	9,842,749	742,864	—	42,710,891

EXHIBIT V

EXHIBIT V

EXHIBIT V

NORTHERN CANADA POWER COMMISSION

Earned Surplus, by Plants, for the year ended March 31, 1966

	YELLOWKNIFE/ SNARE RIVER PLANTS	FORT SMITH PLANT	MAYO PLANT	FORT SIMPSON PLANT	WHITE- HORSE PLANT	INUVIK PLANT	FROBISHER BAY PLANT	FIELD PLANT	FORT RESOLUTION PLANT	MOOSE FACTORY PLANT	TALTON RIVER PLANT	TOTAL
Balance as at April 1, 1965	\$380,128	\$71,181	\$275,676	\$11,593	\$46,264	\$96,711	\$189,144	\$30,307	\$7,873	\$165,785	\$—	\$1,274,662
Deduct :												
Transfers to :												
Reserve for contingencies	3,000	—	—	—	—	—	11,000	—	—	7,000	100,000	121,000
Equity represented by cost of extension, expansion and improvements of capital assets	154,989	6,236	10,742	6,762	—	—	—	—	563	65,653	—	244,945
	157,989	6,236	10,742	6,762	—	—	11,000	—	563	72,653	100,000	365,945
	222,139	64,945	264,934	4,831	46,264	96,711	178,144	30,307	7,310	93,132	(100,000)	908,717
Add :												
Net income (deficit) for the year	4,112	7,752	(14,443)	(3,826)	92,580	96,843	80,412	(3,317)	5,178	90,784	211,856	567,931
Balance as at March 31, 1966	226,251	72,697	250,491	1,005	138,844	193,554	258,556	26,990	12,488	183,916	111,856	1,476,648

NORTHERN CANADA

Statement of Advances,

interest accruals, details of amortization of

	ADVANCES UNDER AUTHORITY OF SEC. 15 OF THE ACT	INTEREST ACCRUALS DURING CONSTRUCTION	TOTAL ADVANCES PLUS INTEREST ACCRUALS DURING CONSTRUCTION	DATE OF COMPLETION OF CONSTRUCTION
OPERATING PLANTS				
Yellowknife (Snare River) System, N.W.T.	\$	\$	\$	
Snare Rapids Power Plant	4,537,284.80	77,715.20	4,615,000.00	Mar. 31, 49
Snare Falls Power Plant	4,300,000.00	258,811.63	4,558,811.63	Mar. 31, 61
	8,837,284.80	336,526.83	9,173,811.63	
Mayo Power Plant, Y.T.	4,193,000.00	113,217.97	4,306,217.97	Mar. 31, 53
	450,069.53	7,582.69	457,652.22	Mar. 31, 58
	4,643,069.53	120,800.66	4,763,870.19	
Fort Simpson Power Plant, N.W.T.	110,000.00	120.17	110,120.17	Mar. 31, 57
	40,000.00	—	40,000.00	Mar. 31, 59
	150,000.00	120.17	150,120.17	
	48,000.00	—	48,000.00	Mar. 31, 61
	100,000.00	—	100,000.00	Mar. 31, 63
	298,000.00	120.17	298,120.17	
Whitehorse Power Plant, Y.T.	6,852,512.43	347,487.57	7,200,000.00	Mar. 31, 59
Inuvik Utilities Plant, N.W.T.	927,459.59	95,714.62	1,023,174.21	Mar. 31, 61
(Power Plant & Distribution System only)	35,000.00	—	35,000.00	Mar. 31, 63
	360,000.00	—	360,000.00	Mar. 31, 64
	45,000.00	—	45,000.00	Mar. 31, 64
	1,367,459.59	95,714.62	1,463,174.21	
Frobisher Bay Power Plant, N.W.T.	550,000.00	19,061.64	569,061.64	Mar. 31, 61
	2,900,000.00	364,965.74	3,264,965.74	Mar. 31, 66
	3,450,000.00	384,027.38	3,834,027.38	
Field Power Plant, B.C.	194,438.36	5,561.64	200,000.00	Mar. 31, 60
Fort Resolution Power Plant, N.W.T.	125,000.00	—	125,000.00	Mar. 31, 61
Taltson River System, N.W.T.	135,000.00	3,253.84	138,253.84	Mar. 31, 51
Fort Smith Power Plant, N.W.T.	3,000.00	—	3,000.00	Mar. 31, 54
	96,000.00	2,448.33	98,448.33	Mar. 31, 58
	234,000.00	5,702.17	239,702.17	
	175,000.00	1,102.74	176,102.74	Mar. 31, 61
	50,000.00	—	50,000.00	Mar. 31, 63
	459,000.00	6,804.91	465,804.91	
Taltson River Power Plant, N.W.T.	9,120,000.00	510,892.29	9,630,892.29	Mar. 31, 66
	9,579,000.00	517,697.20	10,096,697.20	
Totals — Operating Plants	35,346,764.71	1,807,936.07	37,154,700.78	
PROJECTS UNDER CONSTRUCTION				
Inuvik Utilities Plant, N.W.T.	12,000.00	1,234.11	13,234.11	—
(1) Water System Improvements	350,000.00	—	350,000.00	—
(2) Extension to Utilidor System				
Moose Factory Utilities Plant, Ont.	65,000.00	6,825.00	71,825.00	—
Totals — Projects Under Construction	427,000.00	8,059.11	435,059.11	—
ADVANCES FOR INVESTIGATIONS				
Authority — Sec. 14, N.C.P.C. Act	—	—	—	—
TOTALS — All Plants and Projects	35,773,764.71	1,815,995.18	37,589,759.89	

POWER COMMISSION

Bonds and Projects, including

Principal repayments to March 31, 1966 incl.

OUTSTANDING PRINCIPAL MAR. 65	PARTICULARS OF AMORTIZATION		EFFECTIVE DATE	AMORTIZATION REPAID MAR. 31, 66			ADVANCES 1965-66 INCL. INTEREST ACCRUALS TO 31 MAR. 66	OUTSTANDING PRINCIPAL 31 MAR. 66
	INTEREST RATE	PERIOD (YEARS)		PRINCIPAL	INTEREST	TOTAL		
				\$	\$	\$	\$	\$
18,765.49	4½%	29	Apr. 1, 62	135,002.35	251,161.58	386,163.93	—	5,953,763.14
14,577.11	3½%	20	Apr. 1, 53	228,907.86	63,893.03	—	—	1,815,669.25
4,143.14	3½%	15	Apr. 1, 58	30,152.06	9,937.69	—	—	243,991.08
8,720.25				259,059.92	73,830.72	332,890.64	—	2,059,660.33
4,562.13	3½%	20	Apr. 1, 57	7,109.87	3,790.38	—	—	97,452.26
4,886.07	5%	30	Apr. 1, 61	878.17	2,244.30	—	—	44,007.90
6,978.24	5½%	30	Apr. 1, 63	1,628.00	4,970.13	—	—	95,350.24
6,426.44				9,616.04	11,004.81	20,620.85	—	236,810.40
7,425.21	4%	40	Apr. 1, 59	95,872.12	267,897.01	363,769.13	—	6,601,553.09
0,026.02	4½%	30	Apr. 1, 61	20,329.99	41,563.64	—	—	929,696.03
3,942.38	5½%	30	Apr. 1, 63	569.80	1,739.55	—	—	33,372.58
4,696.74	5½%	30	Apr. 1, 64	5,575.05	18,178.21	—	—	349,121.69
4,351.24	5¼%	30	Apr. 1, 64	682.82	2,328.44	—	—	43,668.42
3,016.38				27,157.66	63,809.84	90,967.50	—	1,355,858.72
6,282.62	5½%	30	Apr. 1, 61	9,405.65	30,836.25	—	—	526,876.97
9,965.74	5%	30	Apr. 1, 66	—	—	—	145,000.00	3,264,965.74
6,248.36				9,405.65	30,836.25	40,241.90	—	3,791,842.71
3,366.25	5%	30	Apr. 1, 60	3,841.98	9,168.31	13,010.29	—	179,524.27
6,890.80	5%	30	Apr. 1, 61	2,286.89	5,844.54	8,131.43	—	114,603.91
5,507.84	5%	20	Apr. 1, 62	5,244.04	6,775.39	—	—	130,263.80
4,678.32	5%	30	Apr. 1, 61	3,221.82	8,233.92	—	—	161,456.50
8,489.13	5½%	30	Apr. 1, 63	813.99	2,485.07	—	—	47,675.14
8,675.29				9,279.85	17,494.38	—	—	339,395.44
9,942.97	5½%	40	Apr. 1, 66	—	—	—	3,009,949.32	9,630,892.29
9,618.26				9,279.85	17,494.38	26,774.23	—	9,970,287.73
9,477.44				551,522.46	731,047.44	1,282,569.90	3,154,949.32	30,263,904.30
2,604.11	5¼%	30	—	—	—	—	630.00	13,234.11
1,000.00	—	—	—	—	—	—	—	350,000.00
4,412.50	5¼%	30	—	—	—	—	3,412.50	71,825.00
1,016.61				—	—	—	4,042.50	435,059.11
1,000.00	—	—	—	—	—	—	—	50,000.00
1,494.05				551,522.46	731,047.44	1,282,569.90	3,158,991.82	30,748,963.41

**Statement Re Allocation of Head Office
Assessment for the year ended March 31, 1966**

[illegible]

THE ATLANTIC PROVINCES POWER DEVELOPMENT ACT

Summary by Projects for the fiscal year 1965-66

EXHIBIT IX

PROVINCE - PROJECT									
	DATE OF COMPLETION	OUTSTANDING BALANCE MARCH 31, 65	ADVANCES APR. 1, 1965 TO MAR. 31, 66	INTEREST ACCRUAL 1965-66 (OR TO DATE OF COMPLETION)	REPAYMENTS, 1965-66 AMORTIZATION		OUTSTANDING BALANCE MAR. 31, 1966		
					PRINCIPAL	INTEREST			
Province of New Brunswick									
Bathurst - Dalhousie Transmission Line	Feb. 24, 1965	\$ 1,227,739.74	—	—	\$ 10,220.26	\$ 61,386.99	\$ 1,217,519.48		
Bathurst Terminal Station	Apr. 1, 1964	767,540.55	—	—	6,726.17	38,377.03	760,814.38		
Beechwood - Fredericton Transmission Line	Sep. 26, 1962	1,320,844.14	—	—	12,635.29	66,042.21	1,308,208.85		
Beechwood Terminal Station Extension	Sep. 26, 1962	335,407.49	—	—	3,208.54	16,770.37	332,198.85		
Fredericton Terminal Station	May 12, 1961	1,351,540.37	—	—	15,588.04	60,819.32	1,335,953.35		
Grand Falls - Beechwood Transmission Line	Dec. 29, 1961	781,160.87	—	—	7,802.69	39,058.04	773,358.18		
Grand Falls Terminal Station Extension	Mar. 31, 1962	75,394.09	—	—	741.87	3,769.70	74,652.22		
Grand Lake - Newcastle Transmission Line	Jul. 24, 1963	1,608,776.89	—	—	16,457.78	72,394.96	1,592,328.72		
Grand Lake Terminal Station Extension	Apr. 1, 1964	85,459.25	—	—	748.91	4,272.96	84,710.34		
Moncton - N.S. Border Generating Station Extension	Jun. 15, 1964	9,710,490.30	—	—	153,775.67	485,524.52	9,556,714.63		
Moncton Terminal Station	Mar. 31, 1962	1,198,768.89	—	—	13,167.31	53,944.62	1,185,601.58		
Moncton Terminal Station Extension	Mar. 31, 1965	150,000.00	—	—	1,241.72	7,500.00	148,758.28		
Newcastle - Bathurst Transmission Line	Aug. 4, 1961	947,337.98	—	—	10,789.80	42,630.21	936,558.28		
Saint John - Fredericton Transmission Line	Mar. 31, 1962	2,168,673.55	659,351.25	108,563.88	23,820.76	97,590.31	2,146,352.79		
Saint John - Moncton Transmission Line	Mar. 31, 1962	1,832,941.49	—	—	10,576.79	43,331.62	2,600,836.62		
Saint John Terminal Station	Mar. 31, 1962	962,924.79	—	—	10,576.79	43,331.62	952,348.00		
TOTALS (Province of New Brunswick)		24,525,000.39	659,351.25	108,563.88	287,501.60	1,093,412.84	25,005,413.92		
Province of Newfoundland									
Bay D'Espoir Hydro Electric Development	**	—	3,036,187.29	58,015.83	—	25,903.23	3,094,203.12		
Whitbourne - Peter's River Transmission Line	Mar. 31, 1963	493,394.91	—	—	4,324.85	—	489,070.06		
TOTALS (Province of Newfoundland)		493,394.91	3,036,187.29	58,015.83	4,324.85	25,903.23	3,583,273.18		
Province of Nova Scotia									
Antigonish - West Bay Transmission Line	Mar. 31, 1961	711,293.55	—	—	7,421.96	35,564.68	703,871.59		
Bear River - Big Falls Transmission Line	Mar. 31, 1962	55,501.61	—	—	546.12	2,775.08	54,955.49		
Cowie Falls - Sabie River Transmission Line	Mar. 31, 1962	279,224.27	—	—	2,747.51	13,961.21	276,476.76		
Hunter's Mountain - Torbot Transmission Line	Mar. 31, 1962	378,756.95	—	—	3,726.89	18,937.85	375,030.06		
Interconnection with N.S.L. and P. Co. Ltd. System	Mar. 31, 1961	80,153.44	—	—	836.36	4,007.67	79,317.08		
Maccan - N.B. Border Transmission Line	Mar. 31, 1961	338,044.70	—	—	3,527.31	16,902.24	334,517.39		
Maccan Terminal Station	Aug. 29, 1962	244,747.78	—	—	2,351.71	12,237.39	242,396.07		
Ruth Falls - Truro Transmission Line	Mar. 31, 1962	3,967.17	—	—	39.04	198.36	3,928.13		
Sisiboo Hydro - Weymouth Falls Transmission Line	Mar. 31, 1962	35,593.95	—	—	350.23	1,779.70	35,243.72		
Sisiboo Terminal Station	Aug. 29, 1962	133,407.12	—	—	1,281.86	6,670.36	132,125.26		
Trenton - Antigonish Transmission Line	Mar. 31, 1961	707,874.79	—	—	7,386.28	35,393.74	700,488.51		
Trenton Terminal Station	Mar. 31, 1962	280,707.03	—	—	2,860.50	14,535.35	287,846.53		
Trenton Thermal Generating Station Extension	Mar. 31, 1962	2,813,283.42	—	—	51,460.20	140,664.17	2,761,823.22		
Truro - Truro Transmission Line	Mar. 31, 1961	123,640.75	—	—	1,290.12	6,182.04	122,350.63		
Truro - Maccan Transmission Line	Mar. 31, 1961	596,942.12	—	—	6,228.76	29,847.11	590,713.36		
Truro (Onslow) Terminal Station	Mar. 31, 1962	294,830.89	—	—	2,901.08	14,741.54	291,929.81		
West Bay - Hunter's Mountain Transmission Line	Aug. 29, 1962	51,098.36	—	—	490.99	2,554.92	50,607.37		
TOTALS (Province of Nova Scotia)		7,139,067.90	—	—	95,446.92	356,953.41	7,043,620.98		
TOTALS (Provinces of New Brunswick, Newfoundland and Nova Scotia)		32,157,463.20	3,695,538.54	166,579.71	387,273.37	1,476,269.48	35,632,308.08		

NOTE: (*) in column headed "Date of Completion" indicates project not completed during Fiscal Year. 1965-1966.

NOTE: (**) in column headed "Date of Completion" indicates project not completed during Fiscal Year, 1965-1966.

HISTORY OF THE NORTHERN CANADA POWER COMMISSION

In June 1948, the Northwest Territories Power Commission Act was passed by Parliament for the purpose of facilitating the construction and operation of electric power plants in the Northwest Territories for mining and other interests.

The Commission was empowered to obtain loans from the Government of Canada, through the Department of Finance to finance the construction of power developments, at interest rates and amortization periods approved by the Governor-in-Council. The Act provides that such overhead charges and operating and maintenance expenses are to be met on a self-sustaining basis from revenue derived from the operations.

When the Act became effective September 1, 1948 and concurrent with the appointment of the first Chairman, the Commission assumed responsibility of the Snare River Power Project located some 90 miles northwest of Yellowknife, N.W.T., which was being constructed by the federal government (Department of Mines & Resources) and was then nearing completion.

This project was instigated in January 1946 when the Giant Yellowknife Gold Mines Limited approached the Department of Mines & Resources with a proposal to develop a hydro site on the Snare River some 70 miles northwest of Yellowknife to meet a power requirement of 6,000 hp for mining and milling purposes in the Yellowknife Area. Because of the growing interest in this area the federal government decided to undertake construction of a larger project of some 8,350 hp at a more suitable site on the same river but some 20 miles further north and thus aid and encourage the development of mining in the Yellowknife area.

The Snare River plant and transmission line were commissioned on October 4, 1948 and began delivering power to the first customer, Giant Yellowknife Gold Mines Limited; supply to the town of Yellowknife and the Cominco Limited "Con" mine were connected in 1949 through a short tie line between the terminal of the Snare River transmission line and the Cominco Limited Bluefish-Yellowknife transmission line.

1949

In 1949 the Commission undertook establishment of a central diesel generating plant to supply the Fort Smith, N.W.T. area and replace three small independent plants operated by different government departments. A contract was awarded for construction of the powerhouse and a small portion of the distribution system was constructed during the year.

In co-operation with the Dominion Water and Power Bureau, the Commission agreed to consider development of hydro-electric power to supply to the silver/lead mines being redeveloped in the Keno Hill district near Mayo Landing, Yukon, and an engineering survey of possible power sites was undertaken in 1949.

Because of this latter project the Act was amended in March 1949 to extend its provision to include the Yukon Territory.

1950

Equipment for the Fort Smith diesel plant was ordered, the powerhouse building constructed and a small portion of the distribution system was built in 1949, the generating equipment was installed and the distribution system completed in 1950. The plant was commissioned in October by Mr. George Prudham, M.P., Parliamentary Assistant to the Minister of Resources and Development.

1951 and 1952

Construction of the Mayo River Hydro-Electric Development began in March 1951. During the summer of the same year the Commission requested the Water Resources Branch to undertake investigations with a view to locating a hydro-electric power site in the Whitehorse district. The Mayo River development was completed in November 1952 and power was supplied to the mines in the Keno Hill area and to the townsite of Mayo, the latter through a privately owned company that had previously been supplying the community by diesel generation; this distribution system was acquired by the Commission in the fall of 1956.

1953

Delivery of power to the Consolidated Discovery Yellowknife Mines Limited over that company's own 34.5 kv wood pole transmission line constructed from the Cominco Limited's Bluefish Hydro Plant to the Discovery mine property some 42 miles to the northeast commenced in April 1953.

1955

During 1955 a powerline carrier telephone system operating over the transmission line between Snare River Power plant and the Yellowknife Terminal Station was installed. An extension to the powerhouse at Fort Smith was constructed to accommodate a fourth

generating unit and a 100,000 gallon storage tank was installed so that a lower cost fuel produced by the refinery at Norman Wells, N.W.T. could be used.

Studies and field investigation work were undertaken in the fall of 1955 to determine whether a thermal plant utilizing coal from the Carmacks coal field or a hydro development could best supply the increasing power needs of the Whitehorse area in the Yukon.

1956

The Act was further amended (August 1956) to change the name of the Commission to "The Northern Canada Power Commission", and to empower the Commission to supply public utilities, defined as electrical and thermal energy, water, sewerage and telephone service; in addition, the Commission was empowered to operate in any province of Canada, subject to the approval of the Governor-in-Council and the laws of the province concerned, and provision was made for internal financing of plant expansion or improvement.

Installation of a second 3,000 hp unit at Mayo River Hydro-Electric Plant was approved, and the work scheduled for 1957.

Construction of the 15,000 hp hydro generating station at Whitehorse Rapids on the Yukon River about 2 miles upstream from the City of Whitehorse was approved in July and on-site work commenced in November 1956.

1957

Responsibility for the retail distribution of power in Mayo Landing was transferred to the Commission from the Mayo Light and Power Company accompanied by a substantial reduction in consumer power costs.

The Commission was appointed to administer the Atlantic Provinces Power Development Act enacted by Parliament in 1957 to provide for financial assistance to the Atlantic provinces in connection with construction of thermal electric power plants and high voltage transmission lines for the payment of a subsidy on eastern coal used for production of electricity in any of the Atlantic provinces; the latter feature was initially administered by the Dominion Coal Board and transferred to the Commission in 1965.

Investigations were undertaken into the power requirements at Frobisher Bay, N.W.T. The initial design work for a central power and heating plant and utilidor system of the Inuvik Utility project were well advanced during 1957.

The No. 2 Generating Unit at Mayo River Hydro Plant was placed in operation in December 1957.

1958

Extensions to the powerhouses at Fort Smith and Fort Simpson were constructed during 1958 to accommodate additional generating equipment.

Development of a second hydro-electric power site on the Snare River, designated Snare Falls, approximately 10 miles downstream from the existing plant (renamed Snare Rapids) was approved.

At the request of the Department of Northern Affairs and National Resources the Commission undertook the operation of the power plant and central heating and water supply systems at Fort McPherson, N.W.T. in September.

The Whitehorse Rapids Hydro plant was commissioned in November and power was supplied directly to the Department of National Defence establishments and through the Yukon Electrical Company Limited to consumers in the city of Whitehorse.

The Inuvik, N.W.T. electric generating plant and distribution system was placed in service in December, followed by commissioning of the central heating plant and a portion of the utilidor system in early 1959.

1959

Construction of the Snare Falls Hydro project began in 1959 and an emergency standby diesel plant was built at Yellowknife during the summer.

Under a rental agreement with the Department of Transport the Commission in February 1959, undertook operation of a 1,000 kw diesel plant that had been installed at Frobisher Bay; this was a temporary arrangement pending establishment of a new central generating station upon completion of townsite development plans.

The Field, B.C. diesel generating plant and distribution system were constructed during the summer and fall and commissioned in December.

1960

Studies were carried out in regard to power supply at Fort Resolution and Norman Wells, N.W.T., and in connection with the Trans Canada Highway maintenance establishment in the Rogers Pass area of Glacier National Park. The latter study led to a field investigation of possible hydro sites in the vicinity of Glacier, B.C. in search of an economically practicable development, with negative results.

The Fort Resolution diesel plant was constructed and placed in operation in January 1961.

Initial construction of the Inuvik Utilities system was completed and an additional diesel generating unit (900 kw) was installed in the power plant.

The Snare Falls Hydro-Electric Plant was placed in operation in December 1960.

1961

Additional generating units were installed to complete the Field and Fort Resolution diesel plants. At the request of the Commissioner of the Yukon Territory the Commission sponsored a field investigation and office study in respect to the supply and distribution of power and operation of the water and sewerage systems in Dawson, Y.T., the cost of which was shared between the Commission and the Yukon Territorial Government.

1962

Following an enquiry received from the Pine Point Mines Limited in the fall of 1961, the Commission undertook an investigation of the possibility of developing a supply of hydro power for the Pine Point mining area near Great Slave Lake, N.W.T. A reconnaissance survey in February 1962 indicated a possible site at the Twin Gorges on the Taltson River, some 35 miles northeast of Fort Smith, N.W.T. that would meet the requirements of the Pine Point mining operation and the Fort Smith areas; a field investigation of this site and the surrounding area was carried out in the summer of 1962.

Additional diesel units and fuel storage tanks were installed in the Fort Simpson and Fort Smith plants. The Commission assumed responsibility for the establishment of a central heating and power generating station to supply the projected new townsite at Frobisher Bay, N.W.T.

1963

The construction of a transmission line between Rae and Yellowknife, and the feasibility of transferring the control of the Snare system from Snare Rapids to Yellowknife were investigated.

A contract for construction of the new Frobisher Bay Central Heating and Power generating station was awarded and construction began in the late summer of 1963.

The Taltson River Hydro Project was authorized in July and engineering design was put in hand immediately. Construction of the access road began in the fall, followed by award of the general contract in December; on-site construction commenced in March 1964.

A 1,000 kw heavy duty diesel unit was installed in the Inuvik generating plant and a major extension of the utilidor system was constructed to serve new federal government residential premises.

1964

A contract for construction of the 175 mile Twin Gorges to Pine Point (via Fort Smith) transmission line was awarded and this work began in early summer.

The new Frobisher Bay central generating and heating plant (comprising a 1,000 kw heavy duty diesel, a 1,500 kw gas turbine with exhaust gas boiler, and two oil fired boilers) was commissioned in March 1964 and central heating was supplied to the new water treatment plant and hospital. Operation of the new water treatment plant and central heating and water supply system associated with the Federal Building (formerly U.S.A.F. S.A.C. premises) was undertaken by the Commission under a contract with the Department of Northern Affairs and National Resources.

A 900 kw high speed diesel unit was transferred from Frobisher Bay and installed in a temporary addition to the Fort Smith diesel plant to ensure adequate generating capacity pending supply of hydro power from the Taltson River development.

On April 1, 1964, responsibility for operation of the utilities plant, (power, central heat, and water and sewerage systems) supplying the Department of National Health and Welfare, Northern Health Services hospital and environs on Moose Factory Island in the James Bay area of northern Ontario, was transferred from that department to the Commission.

Following a decision to move the operational control centre of the Snare Rapids and Snare Falls plants to Yellowknife a one storey building comprising, control room, office space, and vehicle garage was constructed in Yellowknife in the fall of 1964, and the required additional remote control equipment was placed on order.

1965

Control equipment and three residences were transferred from Snare Rapids to Yellowknife and the Snare Rapids and Snare Falls plants placed on remote control operation from Yellowknife.

A building to serve as the Control Centre and local administration office, and a substation for supply of hydro power were constructed in Fort Smith.

The Taltson Hydro-Electric Development was commissioned on October 29 by the Honourable E. J. Benson, Minister of National Revenue, and the Fort Smith diesel plant was reduced to standby operation in November.

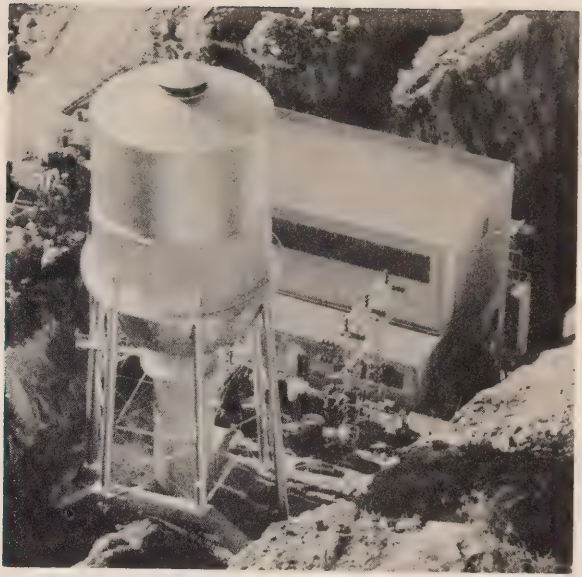
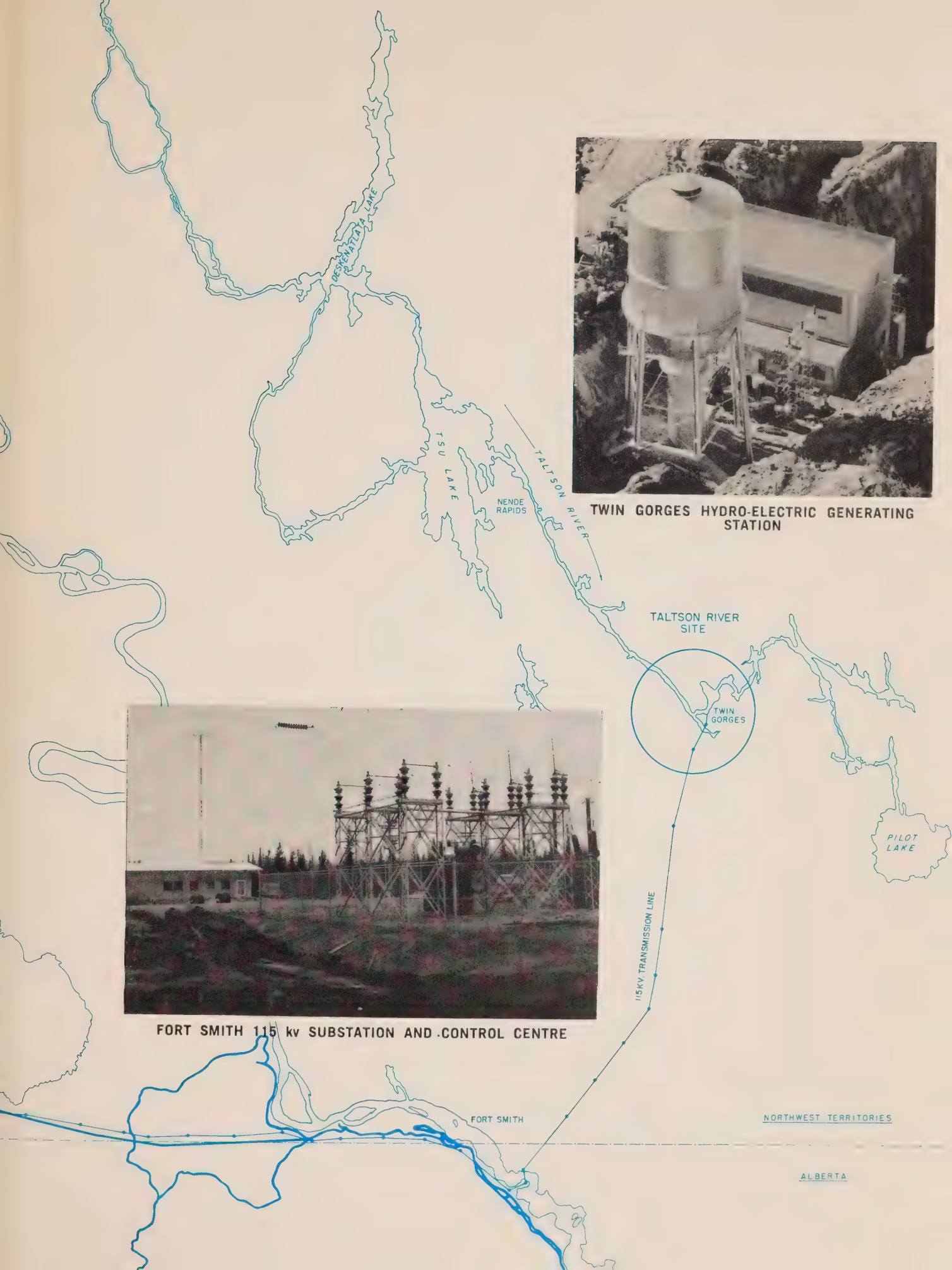
At Frobisher Bay two steam boilers and a 600 kw diesel unit were installed in the central generating and heating plant and a steam line was constructed to supply the Federal Building area.

Office studies were undertaken to determine the probable cost of supplying power for possible new mining developments in the Northwest Territories and Yukon.

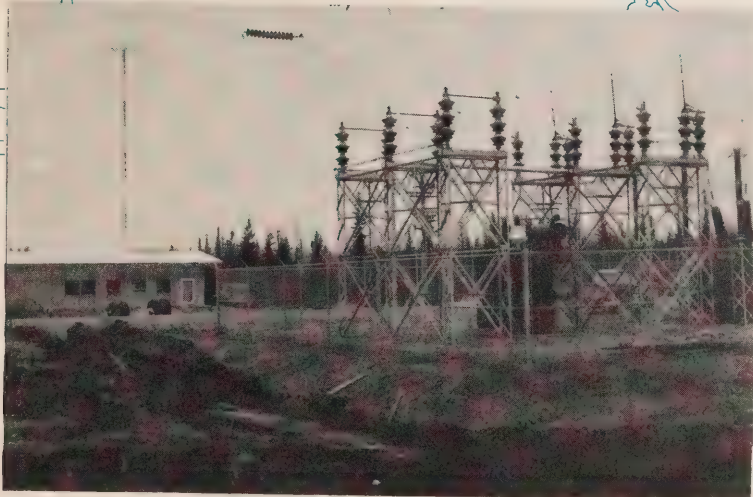




- ⊙ PROVINCIAL CAPITAL
- THERMAL PLANT
- ▲ HYDRO PLANT
- UTILITY PLANT
- TRANSMISSION LINE
- == HIGHWAY
- ++++ RAILWAY



TWIN GORGES HYDRO-ELECTRIC GENERATING STATION



FORT SMITH 115 kv SUBSTATION AND CONTROL CENTRE

TALTSON RIVER SITE

TWIN GORGES

PILOT LAKE

115KV TRANSMISSION LINE

FORT SMITH

NORTHWEST TERRITORIES

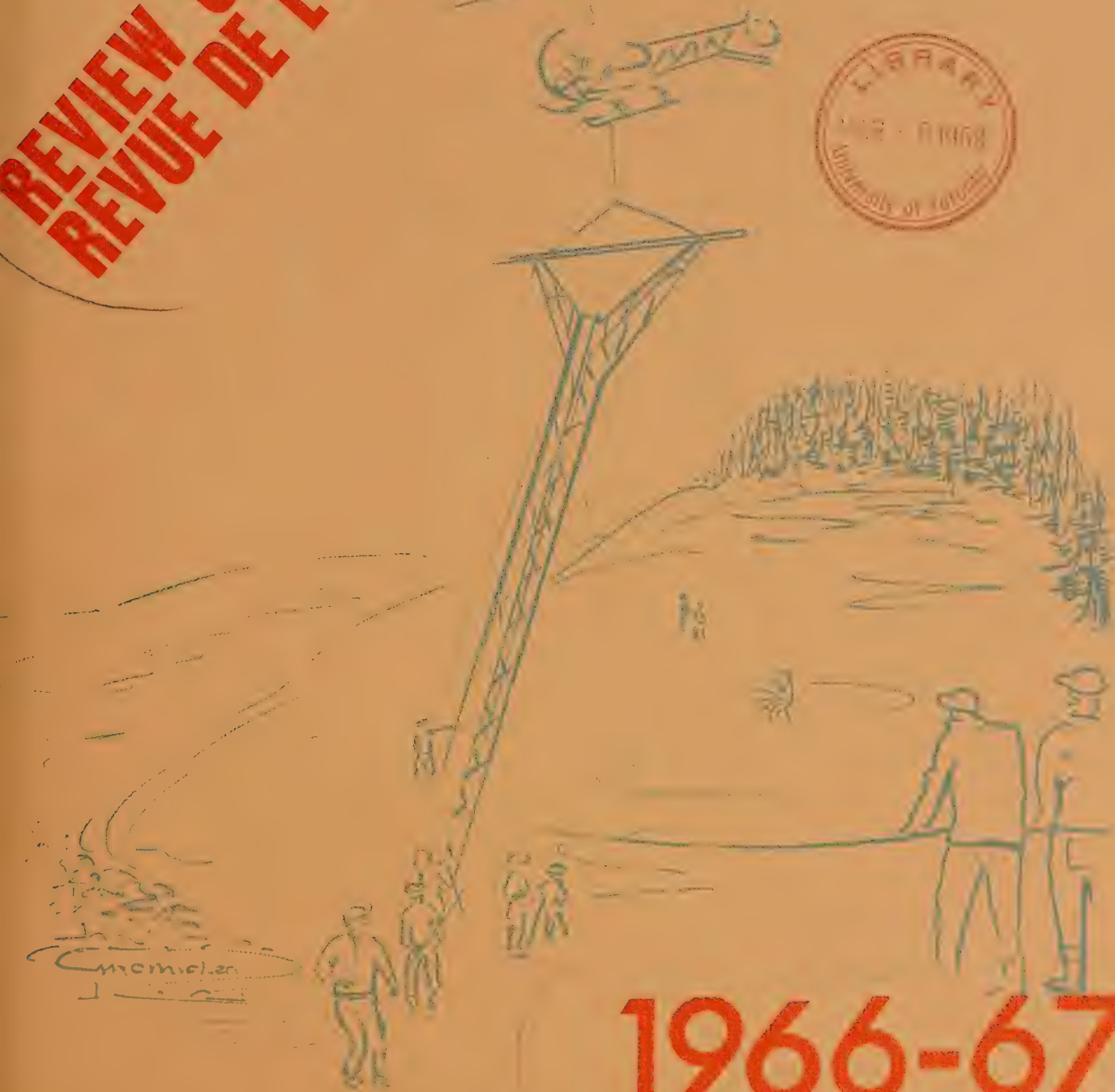
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REVIEW OF OPERATIONS REVUE DE L'EXPLOITATION

Government
Publications
**NORTHERN CANADA
POWER COMMISSION
COMMISSION
D'ENERGIE
DU NORD CANADIEN**

Report



1966-67



ROTOR MAINTENANCE, WHITEHORSE

La présente publication est un résumé du 19^e rapport annuel soumis par la Commission d'énergie du Nord canadien à l'honorable Arthur Laing, député et ministre des Affaires indiennes et du Nord canadien, et déposé par le ministre devant le Parlement, en conformité de l'article 24 de la Loi sur la Commission d'énergie du Nord canadien, chapitre 42, 4-5, Elisabeth II.

This is a summary of the 19th Annual Report submitted by the Northern Canada Power Commission to The Honourable Arthur Laing, M.P., Minister of Indian Affairs and Northern Development, and tabled before Parliament by the Minister, in accordance with Section 24 of the Northern Canada Power Commission Act, Chapter 42, 4-5 Eliz. II.

REVUE DE L'EXPLOITATION

REVIEW OF OPERATIONS

1966-67

1966-67

COMMISSION D'ÉNERGIE DU NORD CANADIEN

PRÉSIDENT

E.A. Côté

MEMBRES

T.M. Patterson

J.F. Parkinson

DIRECTEUR GÉNÉRAL ET INGÉNIEUR EN CHEF

E.W. Humphrys

SECRÉTAIRE – TRÉSORIER

T.A. Stott

BUREAU CENTRAL

251, rue Bank, Ottawa, Canada

NORTHERN CANADA POWER COMMISSION

CHAIRMAN

E.A. Cote

MEMBERS

T.M. Patterson

J.F. Parkinson

GENERAL MANAGER CHIEF ENGINEER

E.W. Humphrys

SECRETARY – COMPTROLLER

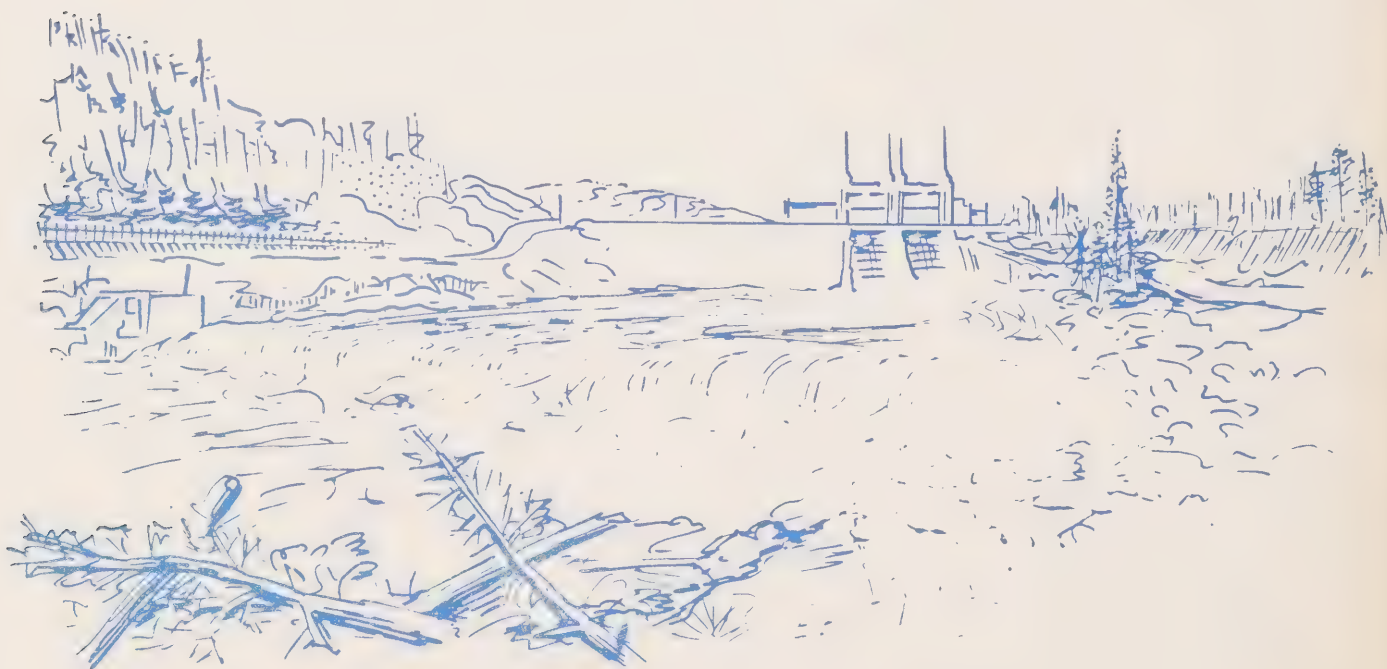
T.A. Stott

HEAD OFFICE

251, Bank Street, Ottawa, Canada

“LA COMMISSION D’ÉNERGIE DU NORD CANADIEN a été créée en vertu de la Loi sur la Commission d’énergie du Nord canadien (chap. 42, 4-5, Elisabeth II). La Commission est autorisée à aménager et à exploiter des installations d’utilité publique dans les Territoires du Nord-Ouest et dans le Yukon, et même ailleurs au Canada sous réserve de l’approbation du gouverneur général en conseil. La loi exige que chacune des entreprises exploitées par la Commission fasse ses frais; par conséquent, le tarif des services public qu’elle fournit, doit être établie en vue de rapporter un revenu permettant d’acquitter l’intérêt sur le capital immobilisé, de rembourser le capital d’immobilisation au cours d’un certain nombre d’années, de couvrir les frais d’exploitation et d’entretien, ainsi que d’accumuler une réserve pour éventualités diverses. La Commission est donc un organisme fédéral chargé de l’aménagement d’entreprises d’utilité publique de caractère commercial.”

“THE NORTHERN CANADA POWER COMMISSION operates under authority of the Northern Canada Power Commission Act (4-5 Eliz. II, Chap. 42). The Commission is empowered to construct and operate public utility plants in the Northwest Territories, Yukon Territory, and, subject to approval of the Governor General in Council, elsewhere in Canada. It is a requirement of the authorizing Act that projects undertaken by the Commission shall be self-sustaining, consequently rates charged for utilities supplied must provide sufficient revenue to cover interest on investment, repayment of principal over a period of years, operating and maintenance expenses and a contingency reserve. The Commission is thus a Federal Government Agency concerned with the construction and management of public utilities on a commercial basis.”



WHITEHORSE RAPIDS POWER DEVELOPMENT

INTRODUCTION

Au cours de l'année écoulée, la Commission a pris en main l'exploitation de centrales à Cambridge Bay (T.N.-O.) et à Dawson (Yukon), de sorte qu'elle exploite maintenant cinq centrales hydro-électriques et douze centrales thermo-électriques.

La production globale d'énergie électrique, qui s'est élevée à 255,869,814 kilowatt-heures, plus l'équivalent de 384 millions de livres de vapeur, représente une augmentation de 20 p. 100 par rapport à celle de l'année précédente.

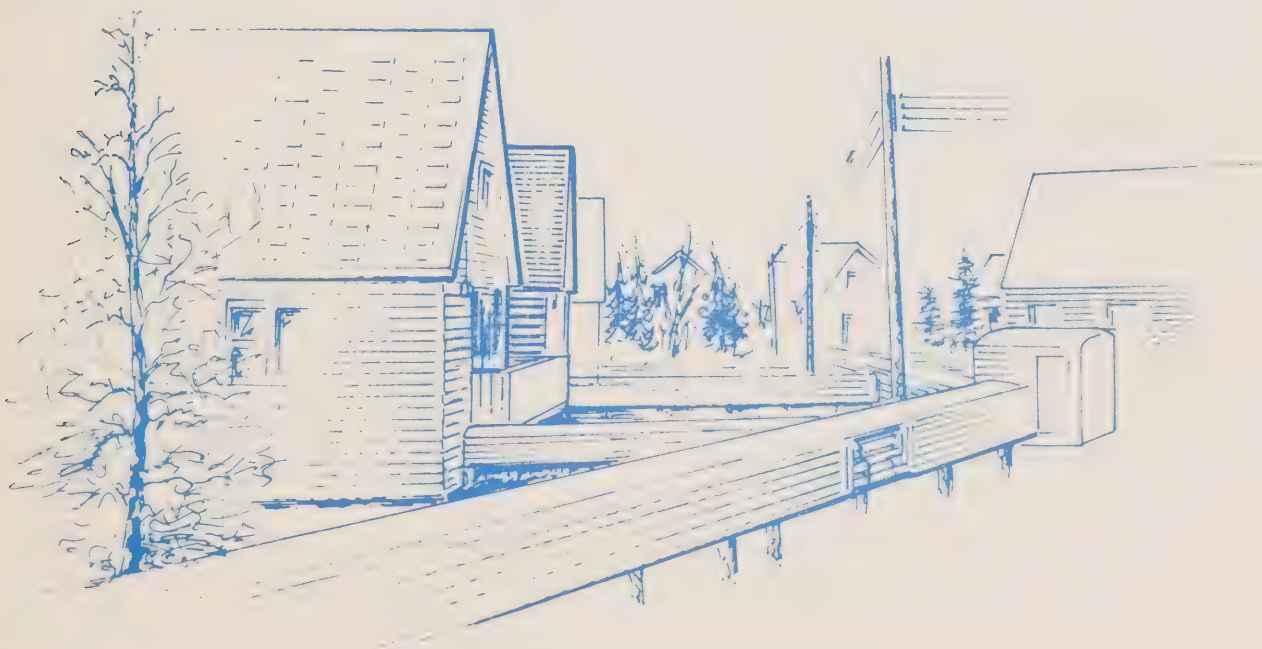
Le total des dépenses d'exploitation de l'année s'établit à \$6,033,146, tandis que les revenus globaux provenant des ventes de courant et des services s'élèvent à \$6,024,515. La déficite qui en résulte, soit \$8,631, a été porté au compte des excédents des centrales en cause. Au cours de l'année, la Commission a effectué des études au sujet des possibilités d'offrir des services d'électricité à de nouvelles régions et à de nouvelles localités, ainsi qu'au sujet de l'expansion de l'activité actuelle de façon à pouvoir répondre aux demandes croissantes de services.

INTRODUCTION

The Commission assumed responsibility for the operation of plants at Cambridge Bay, N.W.T., and Dawson, Y.T. during the year and now operates a total of five hydro and twelve thermal power plants.

The total gross generation of electricity increased by 20% over the previous year and totalled 255,869,814 kwhr for all plants, and the equivalent of 384 million pounds of steam were also produced.

Overall operating expense for the year was \$6,033,146 and income from sales of power and services totalled \$6,024,515. The resulting deficit of \$8,631 was charged to surplus accounts of the plants concerned. During the year, the Commission carried out studies in relation to the provision of power to new areas and communities, and in connection with expansion of existing operations to meet increasing demands for services.



UTILIDOR SERVICES INSTALLED AT INUVIK

FAITS MARQUANTS DE L'EXPLOITATION

OPERATIONAL HIGHLIGHTS

CENTRALES HYDRO-ÉLECTRIQUES

Au cours de sa première année d'exploitation, la centrale hydro-électrique de la rivière Taltson a produit plus de 56 millions de kilowatt-heures, dont 47 millions ont servi à alimenter la ville et la région de Pine Point, le reste étant fourni à la localité de Fort Smith.

Le réseau hydro-électrique de Yellowknife (rivière Snare) a connu une légère augmentation tant de la demande que de sa production globale et de ses recettes. Vers la fin de l'année, la Commission a entrepris la construction de deux lignes de transmission, l'une de 28 milles de longueur et de 115 kv de tension, et l'autre de 10 milles de longueur et de 12 kv de tension, afin d'étendre le réseau aux localités de Frank Channel, de Rae, ainsi qu'à un nouvel établissement situé près de Rae (T.N.-O.). En raison de la diminution de la demande d'énergie électrique à des fins minières, la production de la centrale hydro-électrique de la rivière Mayo a diminué de 12 p. 100 au cours de l'année.

La production de la Centrale hydro-électrique des rapides de Whitehorse a augmenté de 10 p. 100, mais en raison de la baisse du tarif au cours de l'année précédente, ses recettes globales ont diminué de 20 p. 100. Des recherches et des études techniques ont été effectuées en vue d'examiner différents autres moyens d'augmenter la puissance de la centrale de Whitehorse.

CENTRALES THERMIQUES ET USINES D'UTILITÉ PUBLIQUE

Le déplacement de l'usine diesel de secours de Fort Smith, qui avait d'abord été prévu pour 1966, a été remis à plus tard, en attendant qu'on ait des renseignements sûrs au sujet de la consommation industrielle future d'énergie électrique dans la région de Fort Smith. On projetait de transporter de Fort Smith à Inuvik (T.N.-O.) la génératrice diesel à grand rendement et d'une puissance de 1,000 kW.

La centrale de Fort Simpson (T.N.-O.) a connu

HYDRO STATIONS

In its first year of operation, the Taltson River Hydro Electric Development, supplied over 54 million kwhr, of which 47 million kwhr were consumed by the Pine Point mining area and townsite, and the remainder by the community of Fort Smith.

The Yellowknife (Snare River) Hydro System experienced slight increases in demand, total generation and income. In the latter part of the year, work started on the construction of a 28 mile 115kv transmission line and a 10 mile 12kv transmission line to extend the system to the settlements of Frank Channel, Rae and a new townsite being developed near Rae, N.W.T.

Due to cut back in power demand for mining purposes, generation for the Mayo River Hydro Plant declined by 12% over the year.

Generation by the Whitehorse Rapids Hydro Plant increased by 10%, but because of a rate reduction in the previous year, gross revenue declined by 20%. Investigation work and engineering studies were carried out to appraise alternative methods of increasing the generating capacity of the Whitehorse Development.

THERMAL PLANTS AND UTILITIES

Relocation of the diesel standby Plant at Fort Smith, originally scheduled for 1966, has been deferred pending firm indication of the future power load of the Fort Smith area. Plans were put in hand to transfer a 1000 kw heavy duty diesel unit from Fort Smith to Inuvik, N.W.T.

At Fort Simpson, N.W.T. a minor operational surplus was experienced. Operation of the Fort Simpson school and hostel central heating plant and the domestic water supply system by the

un léger surplus d'exploitation. La Commission a continué de se charger à forfait, pour le compte du ministère des Affaires indiennes et du Nord canadien, du service de chauffage central de l'école et du centre d'accueil de Fort Simpson, ainsi que du réseau d'approvisionnement en eau à des fins domestiques. Les brûleurs des chaudières ont été convertis de façon à consommer de l'huile lourde au lieu de mazout léger, ce qui permettra une économie importante dans le coût du combustible.

La nouvelle centrale électrique de Fort McPherson (T.N.-O.) est maintenant en service et cette installation devrait être terminée à l'été de 1967.

L'exploitation des deux petites centrales de Fort Resolution et d'Aklavik (T.N.-O.), cette dernière en vertu d'un contrat avec le ministère des Affaires indiennes et du Nord canadien, a été normale.

La centrale diesel de Field (C.-B.) a connu une augmentation de 5 p. 100 des recettes qu'elle a recueillies de son service, ce qui a laissé un léger surplus d'exploitation pour l'année dernière, comparativement à un déficit au cours de l'année précédente.

Le 5 octobre 1966, un incendie a gravement endommagé le nouveau bâtiment à magasins d'Inuvik (T.N.-O.). Les dommages ont été évalués à \$75,000. La Commission se propose de réparer le bâtiment au cours de l'été de 1967.

On a aussi commencé à préparer les plans de construction d'une annexe à la centrale, laquelle permettra de recevoir le groupe diesel de 1,000 kW qui doit être transporté de Fort Smith, ainsi que les plans d'agrandissement prévu du système utilidor en vue de pouvoir desservir la nouvelle école et de mettre en oeuvre un nouveau programme de construction d'habitations du gouvernement fédéral.

Ayant versé son premier paiement annuel de remboursement de sa dette, l'usine de chauffage central et de production d'électricité de Frobisher Bay (T.N.-O.) a connu sa première exploitation déficitaire. On prévoit cependant que le supplément de recettes provenant de l'approvisionne-

ment a continué sous contrat avec le Département des Affaires indiennes et du Nord canadien. La chaudière a été convertie de l'opération à la vapeur à l'opération à l'huile lourde, ce qui permettra d'effectuer une économie substantielle sur les coûts de combustible.

La nouvelle centrale électrique de Fort McPherson, N.W.T., a été mise en service, et il est prévu de terminer ce projet au cours de l'été 1967.

L'exploitation des deux petites centrales de Fort Resolution et d'Aklavik, N.W.T., la dernière sous contrat avec le Département des Affaires indiennes et du Nord canadien, a été normale.

L'exploitation de la centrale diesel de Field, B.C. a connu une augmentation de 5% des recettes, résultant d'un léger surplus d'exploitation, comparativement à un déficit au cours de l'année précédente.

Le 5 octobre 1966, le nouveau bâtiment à magasins d'Inuvik, N.W.T. a été gravement endommagé par un incendie. Les dommages ont été évalués à \$75,000 et il est prévu de réparer le bâtiment au cours de l'été 1967. On a aussi commencé à préparer les plans de construction d'une annexe à la centrale, laquelle permettra de recevoir le groupe diesel de 1,000 kW qui doit être transporté de Fort Smith, ainsi que les plans d'agrandissement prévu du système utilidor en vue de pouvoir desservir la nouvelle école et de mettre en oeuvre un nouveau programme de construction d'habitations du gouvernement fédéral.

En raison de l'impact des premiers versements de remboursement de la dette, la centrale de chauffage et de production d'électricité de Frobisher Bay, N.W.T. a connu une exploitation déficitaire. On prévoit cependant que le supplément de recettes provenant de l'approvisionne-

ment a continué sous contrat avec le Département des Affaires indiennes et du Nord canadien. La chaudière a été convertie de l'opération à la vapeur à l'opération à l'huile lourde, ce qui permettra d'effectuer une économie substantielle sur les coûts de combustible.

Le 1er octobre 1966, la Commission a assumé la responsabilité de l'exploitation de la centrale de Cambridge.

ment en vapeur de l'Immeuble fédéral et l'augmentation de la demande d'énergie électrique dans cette région sauront corriger cette situation.

Au cours de l'année, des déficiences mécaniques se sont produites en même temps dans les principaux groupes générateurs de l'usine des services d'utilité publique de Moose Factory (Ontario), d'où la nécessité d'avoir recours à des mesures d'urgence pour maintenir le service. Il est question de construire, au cours de l'été de 1967, une annexe à la centrale, laquelle pourra recevoir trois groupes générateurs supplémentaires d'une puissance globale de 650 kW.

Le 1er octobre 1966, l'administration de la centrale diesel de Cambridge Bay (T.N.-O.) est passée du ministère des Transports à la Commission. Deux groupes générateurs d'une puissance de 250 kW chacun, en provenance de Frobisher Bay, doivent être installés dans une annexe de cette centrale au cours de la saison de construction de 1967.

A Dawson (Yukon), depuis le 1er octobre 1966, c'est la Commission qui fournit l'électricité, ayant fait l'acquisition de la Dawson Electric Light and Power Company. La Commission assure aussi le service d'eau à des fins domestiques au nom du gouvernement du Yukon. Elle a conclu des ententes avec la Yukon Consolidated Gold Corporation afin que cette entreprise continue, jusqu'au 31 mai 1967, à assurer le fonctionnement de la station de pompage d'eau et l'approvisionnement de la ville en énergie électrique. Au cours de l'année, la Commission a construit une nouvelle centrale diesel d'une puissance installée de 750 kW, ainsi que la plus grande partie d'un nouveau réseau de distribution d'électricité. La reconstruction de la station de pompage et des canalisations du service d'eau doit avoir lieu à l'été de 1967.

PERSONNEL

A la fin de l'exercice financier, l'effectif permanent comptait 256 employés, dont 56 au bureau central à Ottawa, 3 au bureau d'Edmonton et 197 dans les quinze centrales et usines.

TRAVAUX A FORFAIT

La Commission exploite la centrale d'Aklavik,

Bay, N.W.T. from the Department of Transport.

Two 250kw units transferred from Frobisher Bay are to be installed in an extension to the powerhouse during the 1967 construction season.

At Dawson, Y.T. the Commission assumed responsibility for the supply of power upon purchase of the Dawson Electric Light and Power Company effective October 1, 1966. Concurrently, the Commission assumed responsibility for operation of the domestic water system on behalf of the Yukon Territorial Government. Arrangements were made with Yukon Consolidated Gold Corporation for continuing supply of hydro power until May 31, 1967, to operate the water pumping plant and to supply power to the City. During the year a new diesel generating station with an installed capacity of 750kw was constructed, together with the major part of a new electrical distribution system. Reconstruction of the water pumping and distribution system is scheduled for the summer of 1967.

PERSONNEL

At year end, full time staff totalled 256 comprising 56 at the Head Office, Ottawa, 3 in the Edmonton Office and 197 at the fifteen plants.

CONTRACT WORK

The Aklavik Power Plant, the Fort McPherson

l'usine des services d'utilité publique de Fort McPherson, la chaufferie centrale et l'usine de filtration d'eau de Fort Simpson (T.N.-O.), ainsi que l'usine de filtration d'eau de Frobisher Bay, pour le compte du ministère des Affaires indiennes et du Nord canadien. En outre, elle exécute dans ces localités, ainsi qu'à Inuvik (T.N.-O.), divers travaux de construction et d'entretien de matériel électrique et mécanique, y compris des travaux d'installation et de construction qu'elle effectue au prix coûtant en divers endroits, pour d'autres ministères et organismes fédéraux.

MODALITÉS DE FINANCEMENT

Les fonds nécessaires à la construction de centrales électriques sont avancés par le ministre des Finances et sont remboursables par amortissement. Une fois en service, les centrales sont exploitées de manière à faire leurs frais, les profits ou pertes n'étant pas transmissibles d'une centrale à l'autre. Les tarifs de l'électricité sont établis de façon à couvrir les frais d'exploitation, en conformité de la Loi sur la Commission d'énergie du Nord canadien.

LOI SUR LA MISE EN VALEUR DE L'ÉNERGIE DANS LES PROVINCES DE L'ATLANTIQUE

La Loi de 1958 sur la mise en valeur de l'énergie dans les provinces de l'Atlantique prévoit la conclusion d'accords entre le gouvernement du Canada et les gouvernements respectifs des provinces de l'Atlantique, ainsi que d'accords concernant certains travaux d'aménagement entre la Commission d'énergie du Nord canadien et les diverses Commissions provinciales de l'énergie; ces accords ont pour objet d'accorder de l'aide aux organismes provinciaux en vue de favoriser la production et la distribution d'électricité.

Cette aide peut se traduire en prêts à long terme en vue de la construction de centrales thermo-électriques et de lignes de transmission de courant à haute tension, ainsi qu'en subventions à l'extraction de la houille dans les provinces de l'Atlantique aux fins de la production d'énergie électrique. Les prêts relatifs aux centrales thermo-électriques sont remboursables en 30 ans, à compter du parachèvement des installations; les prêts concernant les lignes de transmission sont remboursables en 40 ans.

Utilities Plant, the Central Heating and Water Treatment Plant at Fort Simpson, N.W.T., and the Frobisher Bay Water Treatment Plant, N.W.T. are operated by the Commission on behalf of the Department of Indian Affairs and Northern Development. In addition, miscellaneous electrical and mechanical services including occasional installation and construction work for government departments and others are provided on a cost recoverable basis at these locations and at Inuvik, N.W.T.

FINANCIAL

Funds to finance the construction of power projects are advanced to the Commission by the Minister of Finance as long term loans repayable by amortization. Commission-owned utilities are operated on a self-sustaining basis and profits or losses are not transferable between plants. Power rates are established at the level necessary to meet operating costs in accordance with the Northern Canada Power Commission Act.

THE ATLANTIC PROVINCES POWER DEVELOPMENT ACT

The Atlantic Provinces Power Development Act (1958) provides for agreements between the Government of Canada and the Governments of the Atlantic Provinces and for further agreements covering specific projects between the Northern Canada Power Commission and the respective Provincial Power Commissions whereby assistance may be provided in respect to the generation and transmission of electric power.

Such assistance takes the form of long term loans covering the cost of constructing thermal power plants and high voltage transmission lines, and the payment of a subvention of coal mined and used in the Atlantic Provinces for the generation of electricity. Loans in connection with thermal power plants are repayable over the 30 year period following completion and those relating to transmission lines are repayable over 40 years.

The Commission administers the agreements pertaining to the financing, construction and

La Commission d'énergie du Nord canadien veille à l'application des accords relatifs au financement, à la construction et à l'aménagement de centrales électriques et de lignes à haute tension, des accords d'un coût global de \$48,926,000 ayant été conclus au cours de l'année en vue de la réalisation de certains travaux.

C'est le gouvernement qui affecte les fonds aux fins de subventions et, de cette façon, au cours de l'année financière terminée le 31 mars 1967, la Commission de l'énergie électrique du Nouveau-Brunswick a reçu une somme de \$940,643.26, tandis que la Commission de l'énergie de la Nouvelle-Ecosse a reçu un montant de \$1,902,582.26, selon la quantité de houille consommée par ces deux sociétés.

ÉTATS FINANCIERS

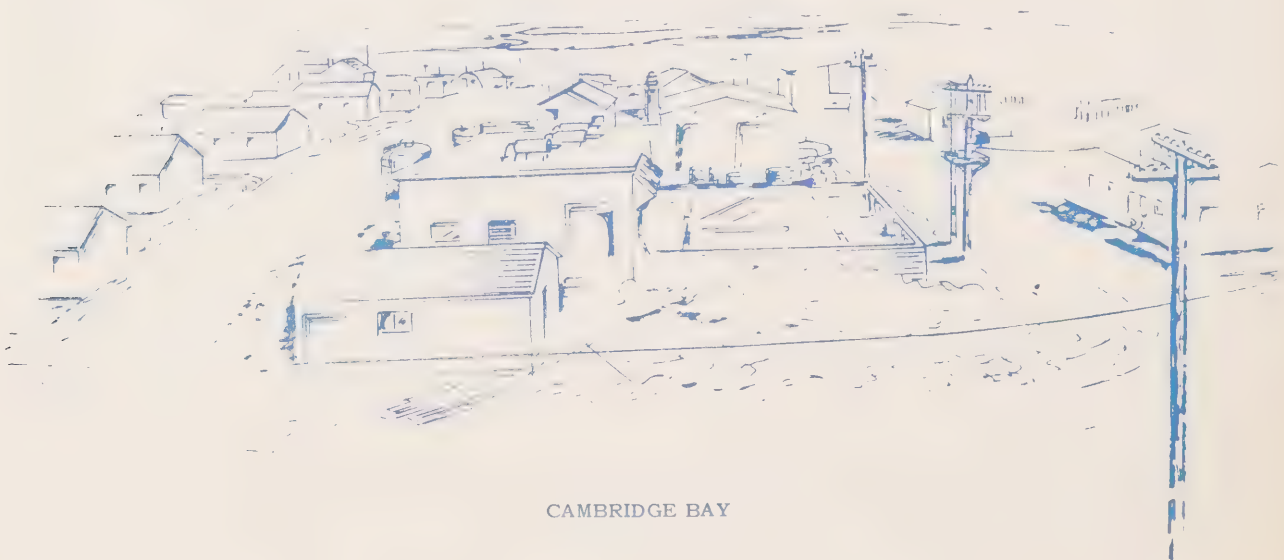
La présente revue d'exploitation comprend un bilan général de la Commission et de ses filiales (document I), certifié comme étant conforme par l'auditeur général du Canada, ainsi qu'un état des recettes et dépenses (document II), un état des bénéfices réalisés (document III), et des observations sur les états financiers (document IV), lesquels témoignent tous de la situation financière de la Commission au 31 mars 1967. En vue de fournir des données détaillées au sujet des diverses centrales, la présente revue d'exploitation comprend aussi l'état des recettes et dépenses de chacune d'elles, pour l'exercice terminé le 31 mars 1967 (document V).

equipping of thermal power plants and high voltage transmission lines, and during the year, agreements in relation to projects totalled \$48,926,000.

Funds for subvention purposes are provided by parliamentary appropriation and during the fiscal year ending March 31, 1967 \$940,643.99 was paid to the New Brunswick Electric Power Commission and \$1,902,582.26 was paid to the Nova Scotia Power Commission in relation to coal usage for generating electricity.

FINANCIAL STATEMENTS

Included in this review of operations is the Consolidated Balance Sheet of the Commission and Subsidiary Companies, (Exhibit I) as certified by the Auditor General of Canada together with related Statement of Income and Expense, (Exhibit II), Statement of Earned Surplus, (Exhibit III) and Notes for Financial Statements (Exhibit IV) which reflect the financial position of the Commission's accounts as of March 31st, 1967. Also included, to provide details in relation to the individual plants is the supplementary Statement of Income and Expense, by plants, for the fiscal year ended March 31, 1967 (Exhibit V).



CAMBRIDGE BAY

RÉGIONS DESSERVIES PAR LA COMMISSION D'ÉNERGIE DU NORD CANADIEN

NORTHERN CANADA POWER COMMISSION AREAS SERVED

TERRITOIRES DU NORD-OUEST

YELLOWKNIFE

Centrale hydro-électrique des rapides de la Snare
Centrale hydro-électrique des chutes de la Snare
Centrale diesel de secours de Yellowknife
Puissance installée des centrales hydro-électriques -- 17,550 HP

FORT SMITH ET PINE POINT

Centrale hydro-électrique de la rivière Taltson
Centrale diesel de secours de Fort Smith
Puissance installée de la centrale hydro-électrique -- 25,000 HP

FORT SIMPSON

Centrale diesel de Fort Simpson
La Commission exploite la chaufferie centrale et le service d'eau et d'égouts pour le compte du ministère des Affaires indiennes et du Nord canadien.
Puissance installée de la centrale diesel -- 1,075 kW

INUUVIK

Réseau des services d'utilité publique d'Inuvik (centrale électrique, chaufferie centrale, service d'eau et d'égouts).
Puissance installée du turbo-générateur à vapeur -- 600 kW
Puissance installée des générateurs diesel -- 2,000 kW

FROBISHER BAY

Réseau des services d'utilité publique de Frobisher Bay (centrale électrique et chaufferie centrale)
Puissance installée des turbo-générateurs à gaz -- 1,500 kW
Puissance installée des générateurs diesels -- 2,500 kW
La Commission exploite une usine de filtrage des eaux, de consommation pour le compte du ministère des Affaires indiennes et du Nord canadien.

FORT RESOLUTION

Centrale diesel de Fort Resolution
Puissance installée de la centrale diesel -- 325 kW

CAMBRIDGE BAY

Centrale diesel de Cambridge Bay
Puissance installée de la centrale diesel -- 600 kW

NORTHWEST TERRITORIES

YELLOWKNIFE

Snare Rapids Hydro Plant
Snare Falls Hydro Plant
Yellowknife Standby Diesel Plant

Total Hydro capacity -- 17,550 HP

FORT SMITH/PINE POINT

Taltson River Hydro Plant
Fort Smith Standby Diesel Plant

Total Hydro capacity -- 25,000 HP

FORT SIMPSON

Fort Simpson Diesel Plant
Central Heating, Water and Sewerage Systems operated by the Commission on behalf of the Department of Indian Affairs and Northern Development.

Total diesel capacity -- 1,075 kW

INUUVIK

Inuvik Utilities Plant (Power, central heating, water and sewerage systems)

Total steam turbine capacity -- 600 kW

Total diesel capacity -- 2900 kW

FROBISHER BAY

Frobisher Bay Utilities Plant (Power and central heating)

Total gas turbine capacity -- 1500 kW

Total diesel capacity -- 2500 kW

Domestic water treatment plant operated on behalf of the Department of Indian Affairs and Northern Development.

FORT RESOLUTION

Fort Resolution Diesel Plant

Total diesel capacity -- 325 kW

CAMBRIDGE BAY

Cambridge Bay Diesel Plant

Total diesel capacity -- 600 kW

FORT McPHERSON

Réseau des services d'utilité publique de Fort McPherson La Commission exploite une centrale électrique diesel, la chaufferie de l'auberge et le service d'eau et d'égouts pour le compte du ministère des Affaires indiennes et du Nord canadien.

Puissance installée de la centrale diesel
— 750 kW

AKLAVIK

La Commission exploite la centrale diesel d'Aklavik pour le compte du ministère des Affaires indiennes et du Nord canadien.

Puissance installée de la centrale diesel
— 470 kW

YUKON

MAYO

Centrale hydro-électrique de la rivière Mayo
Puissance installée de la centrale hydro-électrique — 6,000 HP

WHITEHORSE

Centrale hydro-électrique des rapides de Whitehorse
Puissance installée de la centrale hydro-électrique — 15,000 HP

DAWSON

Centrale diesel de Dawson
La Commission exploite le système d'aqueduc pour le compte du gouvernement du Yukon
Puissance installée de la centrale diesel
— 750 kW

ONTARIO

MOOSE FACTORY

Réseau des services d'utilité publique de Moose Factory (centrale électrique, chaufferie centrale, usine de pompage et de filtrage d'eau et système d'égouts)

Puissance installée du turbo-générateur à vapeur — 200 kW

Puissance installée du générateur diesel
— 650 kW

COLOMBIE-BRITANNIQUE

FIELD

Centrale diesel de Field
Puissance installée de la centrale diesel
— 400 kW

FORT McPHERSON

Fort McPherson Utilities Plant
Diesel generating plant, hostel heating plant, water supply and sewerage systems operated by the Commission on behalf of the Department of Indian Affairs and Northern Development.

Total diesel capacity -- 750 kw

AKLAVIK

Aklavik Diesel Plant operated by the Commission on behalf of the Department of Indian Affairs and Northern Development.

Total diesel capacity -- 470 kw

YUKON TERRITORIES

MAYO

Mayo River Hydro Plant

Total hydro capacity — 6000 HP

WHITEHORSE

Whitehorse Rapids Hydro Plant

Total hydro capacity -- 15,000 HP

DAWSON

Dawson Diesel Plant
Water system operated on behalf of the Yukon Territory Government.

Total diesel capacity -- 750 kw

ONTARIO

MOOSE FACTORY

Moose Factory Utilities Plant (Central power, heating, water pumping and treatment, and sewerage disposal)

Total steam turbine capacity -- 200 kw

Total diesel capacity -- 650 kw

BRITISH COLUMBIA

FIELD

Field Diesel Plant

Total diesel capacity — 400 kw

TABLEAU STATISTIQUE D'EXPLOITATION EN 1966-1967

OPERATING STATISTICS 1966-1967

Plants	Charge de pointe (en kilowatts)	Production brute (en milliers de kilowatts/heure)	d'énergie électrique (en milliers de kilowatts/heure)	Ventes d'énergie calorifique (en 10 ⁹ BTU)	d'eau (en 10 ⁶ gallons)
Net Peak Load (Kilowatts)	Gross Generation KWH x 1000	Power Sales KWH x 1000	Heat Sales BTU's 109	Water Sales Gals x 106	
CENTRALES THERMIQUES					
THERMAL					
Fort Smith	1792	7297*	6722	28	28.1
Fort Simpson	600	2463	2148	(26)	(27.9)
Inuvik	2190	10879	8590	219	93.5
Frobisher Bay	1640	9923	9159	(-)	(72.5)
Field	222	1027	913	(-)	(26.8)
Fort Resolution	182	714	597	(884)	
Fort McPherson	240	955	841	(537)	
Moose Factory	340	1884	1327	(630)	
Aklavik	158	594	510	(1257)	
Dawson	330	4920 ⁰	554*	(444)	
Cambridge Bay	280	654*	545*	(-)	
CENTRALES HYDRO-ELECTRIQUES					
HYDRO					
Rivière Snare	13900	89627	42253	0 Acheté de la Yukon Consolidated Gold Corp. du 1er octobre 1966 au 31 mars 1967	Industrial - Primary
Courant industriel - primaire			25753		- Secondary
Courant industriel - secondaire			12682	* Une partie de l'année seulement	Wholesale
en gros			798		Retail
au détail					
Mayo	5288	31757	20012	x Y compris 7,262,913 kw/h fournis par la centrale de Taltson	Mayo
Courant industriel - primaire			8166		Industrial - Primary
Courant industriel - secondaire			119		- Secondary
en gros			1052		Wholesale
au détail					Retail
Rapides de Whitehorse	10500	45186	16683	0 Purchased from Yukon Consolidated Gold Corp. - Oct. 1st 1966 - March 31st 1967	Whitehorse Rapids
en gros			12164		Wholesale
Courant primaire			14062	* Part year only	Primary
Courant secondaire				x Includes 7,262,913 KWHr supply from Taltson Hydro Development	Secondary
Taltson	12800	60143	38699	0 1956-1966 Statistics	Taltson
Courant industriel - primaire			6019		Industrial - Primary
Courant industriel - secondaire			7263		- Secondary
en gros			2437		Wholesale
au détail					Retail

RELEVÉ STATISTIQUE

STATISTICAL SUMMARY

	1966	1965	1964	1963	1962	1961	1960	1959	1958	
STATISTICAL SUMMARY										
Nombre de centrales en exploitation	15	13	12	11	11	10	10	9	7	No. of Operations
Nombre d'employés	256	250	245	203	182	170	150	128	96	No. of Employees
Production d'énergie électrique										Power Generation
(en milliers de kilowatts/heure)	226,713	182,921	160,661	152,459	143,591	137,477	101,262	100,848	87,638	(KWH x 1000)
de source hydraulique	29,127	30,387	31,539	25,433	24,439	22,208	15,692	10,458	4,804	Hydro
de source thermique										Thermal
Achats total	4,920	-	-	-	-	11	3,051	2,856	3,675	Purchased Total
(en milliers de kilowatts/heure)	260,760	213,308	192,200	177,892	168,030	159,696	120,005	114,172	95,117	(KWH x 1000)
Charge de pointe	50,462	49,525	35,768	33,303	32,863	29,050	28,170	21,730	20,180	Net Peak Load
(en kilowatts)										(Kilowatts)
Ventes d'énergie calorifique	384	284	286	164	144	129	125	28	-	Heat Sales
(en 10 ⁹ BTU)										(BTU's x 10 ⁹)
Vente d'eau	191	166	135	56	-	-	-	-	-	Water Sales
(en 10 ⁶ gallons)										(Gallons x 10 ⁶)
Finances										Financial
(en milliers de dollars)										(Thousands of Dollars)
Revenu brut	6,024	5,299	5,016	4,155	3,854	3,988	3,020	2,507	1,481	Gross Revenue
Dépenses	3,988	3,425	3,189	2,496	2,371	2,050	1,406	1,061	516	Expense
Remboursement de capital	673	575	548	521	498	495	569	548	457	Debt Retirement
Intérêts	1,371	731	751	749	757	775	498	507	231	Interest
Revenu net (déficit)	(8)	568	528	389	228	668	547	391	277	Net Income (Loss)



AUDITEUR GÉNÉRAL DU CANADA

Ottawa, le 29 juin 1967

L'honorable Arthur Laing
Ministre des Affaires indiennes
et du Nord canadien
Ottawa.

Monsieur,

J'ai examiné les comptes et les états financiers de la Commission d'énergie du Nord canadien et de ses filiales, pour l'exercice financier terminé le 31 mars 1967. Conformément aux dispositions de l'article 87 de la Loi sur l'administration financière, je déclare que, à mon avis:

- (a) la Commission et ses filiales, ont tenue les livres de comptes appropriés;
- (b) les états financiers de la Commission et de ses filiales
 - (i) ont été préparés de la même manière que l'année dernière et en accord avec les livres de comptes;
 - (ii) en ce qui concerne le bilan consolidé, donnent une idée exacte et juste de l'état des affaires de la Commission et de ses filiales à la fin de l'année financière; et
 - (iii) en ce qui concerne l'état consolidé des recettes et des dépenses, donnent une idée exacte et juste de la situation de la Commission et de ses filiales à la fin de l'année financière; et
- (c) les opérations de la Commission et de ses filiales dont j'ai pris connaissance, étaient de la compétence de la Commission et de ses filiales selon la Loi sur l'administration financière et toute autre loi applicable à la Commission et à ses filiales.

Veuillez agréer, monsieur le Ministre, l'expression de ma haute considération.

L'auditeur général du Canada

A.M. Henderson



AUDITOR GENERAL OF CANADA

Ottawa, June 29, 1967

The Honourable Arthur Laing,
Minister of Indian Affairs and
Northern Development,
Ottawa.

Sir,

I have examined the accounts and financial statements of Northern Canada Power Commission and its subsidiary companies for the year ended March 31, 1967. In compliance with the requirements of section 87 of the Financial Administration Act, I report that, in my opinion:

- (a) proper books of account have been kept by the Commission and its subsidiaries;
- (b) the financial statements of the Commission and its subsidiaries
 - (i) were prepared on a basis consistent with that of the preceding year and are in agreement with the books of account.
 - (ii) in the case of the consolidated balance sheet give a true and fair view of the state of the affairs of the Commission and its subsidiaries as at the end of the financial year, and
 - (iii) in the case of the consolidated statement of income and expense, give a true and fair view of the income and expense of the Commission and its subsidiaries for the financial year; and
- (c) the transactions of the Commission and its subsidiaries that have come under my notice have been within the powers of the Commission and its subsidiaries under the Financial Administration Act and any other Act applicable to the Commission and its subsidiaries.

Yours faithfully,

A.M. Henderson,
Auditor General of Canada.

NORTHERN CANADA POWER COMMISSION

(Established by the Northern Canada Power Commission Act)

AND SUBSIDIARY COMPANIES

ASSETS

	1967	1966
Current Assets:		
Cash	\$ 253,362	\$ 192,988
Accounts receivable	1,693,035	1,606,512
Inventories of maintenance and operating supplies, at cost	1,706,350	1,494,089
Total Current Assets	3,652,747	3,293,589
 Bonds held as Consumers' Security Deposits	 75,000	 75,000
 Investment in Canada Bonds, at amortized cost, including accrued interest (market value \$1,022,500)	 997,423	 1,013,727
 Capital Assets, at cost:		
Power plants	29,081,642	28,871,747
Transmission and distribution facilities	6,812,694	6,717,021
Staff dwellings, warehouses and miscellaneous buildings	1,403,004	1,178,029
Communication, transportation and other equipment	730,704	659,854
Projects under construction	1,172,199	800,092
	39,200,243	38,226,743
 Less: Accumulated depreciation	 7,697,271	 6,901,613
	31,502,972	31,325,130
 Central heating, water and sewerage and fire alarm systems at Inuvik, Northwest Territories	 7,003,445	 7,003,445
Total Capital Assets	38,506,417	38,328,575
	\$43,231,587	\$42,710,891

The accompanying notes are an integral part of these financial statements.

Certified correct:

T. A. Stott
Secretary-Comptroller

Approved:

E. A. Côté
Chairman

CONSOLIDATED BALANCE SHEET AS AT MARCH 31, 1967
(with comparative figures as at March 31, 1966)

LIABILITIES

	1967	1966
Current Liabilities:		
Interest on advances from Canada	\$ 757,637	—
Accounts payable	488,268	\$ 519,316
Contractors' holdbacks	13,740	169,806
Total Current Liabilities	1,259,645	689,122
Consumers' and other Security Deposits	92,646	91,902
Proprietary Equity of Canada:		
Advances, including \$50,000 for investigation of projects	30,707,023	30,748,963
Equity represented by cost of:		
Central heating, water and sewerage and fire alarm systems at Inuvik, Northwest Territories, financed by parliamentary appropriation	7,003,445	7,003,445
Extension, expansion and improvements of capital assets financed from earnings	671,256	559,811
Reserved for contingencies	2,156,000	2,141,000
Earned surplus	1,341,572	1,476,648
	41,879,296	41,929,867
	\$43,231,587	\$42,710,891

t of the financial statements.

I have examined the above Consolidated Balance Sheet and the related Consolidated Statement of Income and Expense and have reported thereon under date of June 29, 1967 to the Minister of Indian Affairs and Northern Development.

A. M. Henderson
Auditor General of Canada

COMMISSION D'ÉNERGIE DU NORD CANADIEN

(Établie par la Loi sur la Commission d'énergie du Nord canadien)

ET FILIALES

ACTIF

	1967	1966
Disponibilités:		
Encaisse	\$ 253,362	\$ 192,988
Comptes à encaisser	1,693,035	1,606,512
Stocks de fournitures d'entretien et d'exploitation, au prix coûtant	1,706,350	1,494,089
Total des disponibilités	3,652,747	3,293,589
Obligations gardées comme dépôts de garantie des consommateurs	75,000	75,000
Placement en obligations du gouvernement fédéral, au prix coûtant et intérêts courus (valeur marchande: \$1,022,500)	997,423	1,013,727
Immobilisations (prix coûtant)		
Centrales électriques	29,081,642	28,871,747
Installations de transmission et de distribution	6,812,694	6,717,021
Logements du personnel, entrepôts et bâtiments divers	1,403,004	1,178,029
Outillage de communication, de transport et autre	730,704	659,854
Aménagements en construction	1,172,199	800,092
	39,200,243	38,226,743
Moins: Dépréciation accumulée	7,697,271	6,901,613
	31,502,972	31,325,130
Réseaux de chauffage urbain, d'aqueduc et d'égout, et d'avertisseurs d'incendie à Inuvik (Territoires du Nord-Ouest)	7,003,445	7,003,445
Total des immobilisations	38,506,417	38,328,575
	43,231,587	42,710,891

Certifié conforme:

T. A. Scott
Le secrétaire-contrôleur

Approuvé:

E. A. Côté
Le président

BILAN CONSOLIDÉ AU 31 MARS 1967
(avec chiffres correspondants au 31 mars 1966)

PASSIF

	1967	1966
Exigibilités:		
Intérêts sur avances du gouvernement du Canada	\$ 757,637	
Comptes à payer	488,268	\$ 519,316
Retenues des entrepreneurs	13,740	169,806
Total des exigibilités	<u>1,259,645</u>	<u>689,122</u>
Dépôts des consommateurs et autres garanties	<u>92,646</u>	<u>91,902</u>
 Avoir propre du gouvernement du Canada:		
Avances, y compris \$50,000 pour enquêtes au sujet des projets	30,707,023	30,748,963
Mise de fonds que représente le coût:		
des réseaux de chauffage urbain, d'aqueduc et d'égout, et d'avertisseurs d'incendie à Inuvik (Territoires du Nord-Ouest), financé au moyen d'un crédit du Parlement;	7,003,445	7,003,445
de l'extension, du développement et de l'amélioration, des immobilisations, financé avec les bénéfices	671,256	559,811
Réserve pour imprévus	2,156,000	2,141,000
Excédent de revenu	1,341,572	1,476,648
	<u>41,879,296</u>	<u>41,929,867</u>
	 <u>43,231,587</u>	 <u>42,710,891</u>

J'ai examiné le bilan consolidé ci-dessus et l'état consolidé des recettes et des dépenses qui s'y rapporte, et j'ai fait rapport à ce sujet, en date du 29 juin 1967, au ministre des Affaires indiennes et du Nord canadien.

A. M. Henderson
L'auditeur général du Canada

Les notes annexées font partie du bilan.

COMMISSION D'ÉNERGIE DU NORD CANADIEN ET SUBSIDIAIRE DES COMPAGNIES

CONSOLIDER D'ÉTAT DES RECETTES ET DE DÉPENSES POUR L'ANNÉE TERMINÉE LE 31 MARS 1967

(Avec chiffres correspondants pour l'année le 31 mars 1966)

Recettes:

	1967	1966
Ventes d'énergie	\$ 3,823,859	\$ 3,320,273
Revenus provenant de la construction, de l'entretien et de l'exploitation d'installations pour le compte du Canada et d'autres organismes.	960,731	1,036,780
Ventes de chaleur	994,119	732,879
Services d'eau et d'égout	106,204	104,333
Intérêts	91,671	65,979
Divers	47,931	38,760
	<u>6,024,515</u>	<u>5,299,004</u>

Dépenses:

Frais et d'entretien:		
Traitement et Salaires	\$ 1,574,169	1,337,590
Combustibles et lubrifiants	980,044	945,929
Matériaux et fournitures	264,239	247,619
Pension et logement des employés (coût net)	174,503	159,448
Entretien et améliorations	263,865	149,920
Voyages et transport	94,845	83,701
Entretien de camions, tracteurs, etc.	46,484	43,827
Energie d'achat pour requisition	32,641	—
Outillage et matériel divers	24,975	36,956
Location et centrales, de lignes et de matériel	32,600	29,501
Télégrammes, téléphone et affranchissement	20,841	18,489
Assurances	13,033	13,333
Divers	52,940	37,181
	<u>3,575,179</u>	<u>3,103,494</u>
Frais d'administration:		
Traitements	349,077	271,431
Location de bureaux	29,772	23,866
Divers	34,492	26,124
	<u>413,341</u>	<u>321,421</u>
Intérêts sur avances du Canada	1,371,750	731,047
Dépréciation (Correspondant remboursement du capital des avances du Canada)	672,876	575,111
	<u>6,033,146</u>	<u>4,731,073</u>
PERTE NET (OU REVENU)	<u>\$ 8,631</u>	<u>\$ (567,931)</u>

Les notes inclus sont une intégral partie de la déclaration financière.

NORTHERN CANADA POWER COMMISSION AND SUBSIDIARY COMPANIES
CONSOLIDATED STATEMENT OF INCOME AND EXPENSE FOR THE YEAR ENDED MARCH 31, 1967
(with comparative figures for the year ended March 31, 1966)

Income	1967	1966
Sales of power	\$ 3,823,859	\$ 3,320,273
Income arising from construction, maintenance and operation of facilities for Canada and others	960,731	1,036,780
Sales of heat	994,119	732,879
Water and sewerage services	106,204	104,333
Interest	91,671	65,979
Miscellaneous	47,931	38,760
	<u>6,024,515</u>	<u>5,299,004</u>
Expense:		
Operations and maintenance:		
Salaries and wages	\$ 1,574,169	1,337,590
Fuel and lubricants	980,044	945,929
Materials and supplies	264,239	247,619
Maintenance and improvements	263,865	149,920
Employees' board and accommodation (net)	174,503	159,448
Travel and removal	94,845	83,701
Maintenance of trucks, tractors, etc.	46,484	43,827
Power purchased for resale	32,641	—
Plant, line and equipment rentals	32,600	29,501
Tools and miscellaneous equipment	24,975	36,956
Telegrams, telephone and postage	20,841	18,489
Insurance	13,033	13,333
Miscellaneous	52,940	37,181
	<u>3,575,179</u>	<u>3,103,494</u>
Administration:		
Salaries	349,077	271,431
Office rent	29,772	23,866
Miscellaneous	34,492	26,124
	<u>413,341</u>	<u>321,421</u>
Interest on advances from Canada	1,371,750	731,047
Depreciation	672,876	575,111
	<u>6,033,146</u>	<u>4,731,073</u>
NET LOSS (INCOME)	<u>\$ 8,631</u>	<u>\$ (567,931)</u>

The accompanying notes are an integral part of the financial statements.

DOCUMENT III**COMMISSION D'ÉNERGIE DU NORD CANADIEN ET SUBSIDIAIRE DES COMPAGNIES
CONSOLIDER D'EXCÉDENT DES RECETTES SUR LES DÉPENSES POUR L'ANNÉE
TERMINÉE LE 31 MARS 1967**

Solde au 1er avril 1966.		\$ 1,470,648
Déduire:		
Virements:		
Réserve pour imprévus	\$ 15,000	
Mise de fonds que représente le coût de l'extension, de l'expansion et de l'amélioration des immobili- sations financé de profit	111,445	126,445
		<hr/> 1,350,203
Perte net pour l'année		<hr/> 8,631
Solde au 31 mars 1967		<hr/> <hr/> \$ 1,341,574

Les notes inclus sont une intégral partie de la déclaration financière.

DOCUMENT IV**COMMISSION D'ÉNERGIE DU NORD CANADIEN
et sociétés-filiales****REMARQUES AU SUJET DES ÉTATS FINANCIERS**

1. Le 30 septembre 1966, la Commission d'énergie du Nord canadien a acheté le capital social des sociétés Yukon Telephone Syndicate, Limited, Dawson City Water and Power Company, Limited et Dawson Electric Light and Power Company, Limited. Le bilan consolidé qui accompagne les présentes remarques, indique la situation financière et le bilan d'exploitation de la Commission et des filiales dont elle est entièrement propriétaire, pour l'exercice financier s'étendant du 1er octobre 1966 au 31 mars 1967.
2. La Commission administre des prêts au montant global de \$71,900,579 au 31 mars 1967, consentis par le gouvernement du Canada en conformité des accords conclus en vertu de la Loi sur la mise en valeur de l'énergie dans les provinces de l'Atlantique.

EXHIBIT III

NORTHERN CANADA POWER COMMISSION AND SUBSIDIARY COMPANIES
CONSOLIDATED STATEMENT OF EARNED SURPLUS FOR THE YEAR
ENDED MARCH 31, 1967

Balance as at April 1, 1966		\$ 1,476,648
Deduct:		
Transfers to:		
Reserve for contingencies	\$ 15,000	
Equity represented by cost of extension, expansion and improvements of capital assets financed from earnings	111,445	126,445
		1,350,203
Net loss for the year		8,631
Balance as at March 31, 1967		\$ 1,341,572

The accompanying notes are an integral part of the financial statements.

EXHIBIT IV

NORTHERN CANADA POWER COMMISSION
and subsidiary companies

NOTES TO THE FINANCIAL STATEMENTS

1. Northern Canada Power Commission purchased the capital stock of The Yukon Telephone Syndicate, Limited, The Dawson City Water and Power Company, Limited, and The Dawson Electric Light and Power Company, Limited, on September 30, 1966. The accompanying consolidated financial statements reflect the financial position and the results of operations of the Commission for the fiscal year and those of its wholly-owned subsidiary companies from October 1, 1966 to March 31, 1967.
2. The Commission administers loans, which amounted to \$71,900,579 as at March 31, 1967, made by Canada pursuant to agreements entered into under the Atlantic Provinces Power Development Act.

DOCUMENT V

COMMISSION D'ÉNERGIE DU NORD CANADIEN ET DES COMPAGNIES SUBSIDIAIRES
 CONSOLIDER D'ÉTAT DES RECETTES ET DÉPENSES POUR L'ANNÉE FINANCIÈRE TERMINÉE
 LE 31 MARS 1967

RECETTES

	Centrales De Yellowknife et de la Snare	Centrale De Fort Smith	Centrale De Mayo	Centrale De Fort Simpson	Centrale De Whitehorse	Centrale d'Inuvik	Centrale De Frobisher Bay	Centrale De Field	Centrale De Fort Resolut
	Yellowknife/ Snare River Plants	Fort Smith Plant	Mayo Plant	Fort Simpson Plant	Whitehorse Plant	Inuvik Plant	Frobisher Bay Plant	Field Plant	Fort Resolut Plant
Ventes d'énergie									
Industriel	\$ 443,204	\$ —	\$ 350,026	\$ —	\$ 238,343	\$ —	\$ —	\$ —	\$ —
Commerce	136,561	—	2,970	—	237,210	—	—	—	—
Vente	6,904	227,140	36,145	156,439	—	425,833	592,288	59,543	67,552
D'une centrale à une autre	—	(87,155)	—	—	—	—	—	—	—
	586,669	139,985	389,141	156,439	475,553	425,833	592,288	59,543	67,552
Revenus provenant de la construc- tion, de l'entretien et de l'ex- ploitation d'installations pour le compte de Canada et autres organismes.	—	—	—	—	—	—	—	—	—
Revenus des chaufferies	—	—	—	—	—	452,400	291,102	—	—
Services d'eau et d'égout.	—	—	—	—	—	64,529	—	—	—
Intérêts	28,417	2,217	23,473	(4,038)	25,681	(731)	6,437	1,287	(796)
Divers	5,133	3,449	2,337	1,864	3,477	6,582	8,453	2,068	921
	620,219	145,651	414,951	154,265	504,711	948,613	898,280	62,898	67,677

EXPENSE:

Operations et Maintenance:									
Traitements et salaire	96,503	42,548	64,513	58,484	78,756	285,669	205,094	21,482	28,030
Combustibles et lubrifiants	752	8,475	71	32,763	385	351,580	311,196	13,473	12,158
Matériaux et fournitures	4,475	1,886	943	1,198	2,984	8,784	6,958	231	468
Entretien et amélioration	8,150	6,227	35,649	13,155	18,903	43,257	65,637	2,044	2,520
Pension et logement des employés (coût net)	14,049	2,258	3,168	5,654	3,529	42,351	42,157	1,569	3,294
Déplacements et transport	9,327	3,072	4,478	3,454	4,485	27,264	12,207	123	528
Entretien de camions, tracteur, etc.	2,733	1,773	4,501	1,348	1,278	12,559	7,704	222	731
Autorité d'achat pour revente	—	—	—	—	—	—	—	—	—
Location de centrales, lignes de transmission et matériel	2,422	3,492	167	677	132	69	1	5	78
Outillage et matériel divers	791	1,374	326	1,126	2,185	1,271	1,317	153	199
Télégrammes, téléphone et affran- chissement	1,916	1,644	1,685	1,560	1,254	3,271	1,732	205	387
Assurances	1,046	1,954	658	1,095	437	1,674	3,849	464	545
Divers	2,864	1,347	3,906	2,458	8,579	9,261	9,816	79	194
Frais d'administration:									
Traitements	—	—	—	—	—	—	—	—	—
Location de bureaux	—	—	—	—	—	—	—	—	—
Divers	—	—	—	—	—	—	—	—	—
Part assignée des frais d'administra- tion centrale	28,787	18,187	21,913	7,041	30,613	35,124	39,166	5,473	5,052
Intérêts sur avances du Canada	245,593	17,029	65,585	10,620	264,062	63,264	193,537	8,976	5,730
Dépréciation (correspondant au remboursement des avances du Canada)	151,928	15,355	268,403	12,368	99,707	28,589	59,086	4,034	3,167
	571,336	126,621	475,966	153,001	517,289	913,987	959,457	58,533	63,081
PERTE NET (OU REVENU)	(48,883)	(19,030)	61,015	(1,264)	12,578	(34,626)	61,177	(4,365)	(4,596)

EXHIBIT V

NORTHERN CANADA POWER COMMISSION AND SUBSIDIARY COMPANIES
CONSOLIDATED STATEMENT OF INCOME AND EXPENSE FOR THE YEAR
ENDED MARCH 31, 1967

Centrale De Moose Factory	Centrale De La Riviere Taltson	Centrale De Dawson	Centrale De Cambridge Bay	Bureau d'Edmonton Bureau Central	Travaux A Forfait	Total
Moose Factory Plant	Taltson River Plant	Dawson Plant	Cambridge Bay Plant	Edmonton and Head Offices	Contract Work	Total

\$ —	\$ 517,992	\$ 16,286	\$ —	\$ —	\$ —	\$ 1,565,851
104,444	77,544	54,776	72,659	—	—	376,741
—	87,155	—	—	—	—	1,881,267
104,444	682,691	71,062	72,659	—	—	3,823,859

INCOME

Sales of Power
Industrial
Wholesale
Retail

—	—	—	—	—	960,731	960,731
250,617	—	—	—	—	—	994,119
41,675	—	—	—	—	—	106,204
(2,365)	11,647	(352)	(124)	14,319	(13,401)	91,671
3,694	252	1,341	769	398	7,193	47,931
398,065	694,590	72,051	73,304	14,717	954,523	6,024,515

Income arising from construction, maintenance and operation of facilities for Canada and others

Sales of heat
Water and sewerage services
Interest
Miscellaneous

EXPENSE:

153,422	77,860	21,314	26,674	—	413,820	1,574,169
126,547	391	1,187	33,430	—	87,636	980,044
15,356	2,097	1,589	553	—	216,717	264,239
30,400	19,861	346	2,079	—	15,637	263,865
9,317	10,953	1,608	7,309	—	27,287	174,503
688	6,531	1,467	2,826	—	18,395	94,845
499	3,488	1,200	319	—	8,129	46,484
—	—	32,641	—	—	—	32,641
20,530	294	202	—	—	4,531	32,600
889	567	566	536	—	13,675	24,975
516	970	1,202	443	—	4,056	20,841
308	551	81	—	—	371	13,033
4,339	203	1,635	519	—	7,740	52,940
—	—	—	—	349,077	—	349,077
—	—	—	—	29,772	—	29,772
—	—	—	—	34,492	—	34,492
29,024	34,160	7,093	8,036	(406,198)	136,529	—
3,771	493,583	—	—	—	—	1,371,750

Operations et Maintenanances:
Salaries and wages
Fuel and lubricants
Materials and supplies
Maintenance and improvements
Employees' board and accommodation (net)
Travel and removal
Maintenance of trucks, tractors, etc.
Power purchased for resale
Plant, line and equipment rentals
Tools and miscellaneous equipment
Telegrams, telephone and postage
Insurance
Miscellaneous
Administration:
Salaries
Office rent
Miscellaneous
Head Office Assessment
Interest on advances from Canada

3,333	19,332	—	—	7,574	—	672,876
398,939	670,841	72,131	82,724	14 717	954,523	6,033,146
874	(23, 749)	80	9,420	Ø	Ø	8,631

Depreciation

NET LOSS (INCOME)

HISTORIQUE DE LA COMMISSION D'ÉNERGIE DU NORD CANADIEN

Le Parlement canadien a adopté en juin 1948 la Loi sur la Commission d'énergie des Territoires du Nord-Ouest, en vue de favoriser l'aménagement et l'exploitation de centrales électriques pour desservir les exploitations minières et autres dans les Territoires du Nord-Ouest.

La Commission est autorisée à se procurer des fonds du gouvernement du Canada, par l'intermédiaire du ministère des Finances, en vue de financer la construction d'aménagements électriques, à des taux d'intérêt et selon des périodes d'amortissement, approuvés par le gouverneur en conseil. La Loi exige que les frais d'amortissement, d'exploitation et d'entretien soient acquittés à l'aide de fonds provenant de l'exploitation des entreprises, qui sont censées faire leurs frais.

Dès la mise en vigueur de la Loi et l'entrée en fonctions de son premier président, le 1er septembre 1948, la Commission prend charge du réseau électrique de la rivière Snare, à quelque 90 milles au nord-ouest de Yellowknife (T.N.-O.), que le ministère des Mines et des Ressources avait aménagé pour le compte du gouvernement fédéral et qu'il était sur le point de mettre en service.

La centrale et les installations connexes ont été mises en chantier en janvier 1946, à la suite de démarches entreprises par la Giant Yellowknife Gold Mines Limited auprès du ministère des Mines et des Ressources, en vue d'aménager un emplacement de forces hydrauliques situé sur la rivière Snare, à quelque 70 milles au nord-ouest de Yellowknife, pour fournir quelque 6,000 HP de force motrice à des exploitations minières et à des usines de bocardage, aux environs de Yellowknife. En raison de l'intérêt croissant manifeste à l'égard des ressources minières de la région, le gouvernement fédéral décide d'aménager des installation d'une puissance de quelque 8,350 HP sur la même rivière, mais à quelque 20 milles plus au nord, afin de favoriser l'établissement d'exploitations minières dans la région de Yellowknife.

La centrale de la Snare et la ligne de transmission sont mises en service le 4 octobre 1948, et ne desservent au début qu'un seul client, la société Giant Yellowknife Gold Mines Limited; la ville de Yellowknife et l'exploitation minière "Con", de la société Cominco Limited, commencent à être desservies en 1949, grâce à une ligne de

HISTORY OF THE NORTHERN CANADA POWER COMMISSION

In June 1948, the Northwest Territories Power Commission Act was passed by Parliament for the purpose of facilitating the construction and operation of electric power plants in the Northwest Territories for mining and other interests.

The Commission was empowered to obtain loans from the Government of Canada, through the Department of Finance to finance the construction of power developments, at interest rates and amortization periods approved by the Governor-in-Council. The Act provides that such overhead charges and operating and maintenance expenses are to be met on a self-sustaining basis from revenue derived from the operations.

When the Act became effective September 1, 1948 and concurrent with the appointment of the first Chairman, the Commission assumed responsibility of the Snare River Power Project located some 90 miles northwest of Yellowknife, N.W.T., which was being constructed by the federal government (Department of Mines & Resources) and was then nearing completion.

This project was instigated in January 1946 when the Giant Yellowknife Gold Mines Limited approached the Department of Mines & Resources with a proposal to develop a hydro site on the Snare River some 70 miles northwest of Yellowknife to meet a power requirement of 6,000 hp for mining and milling purposes in the Yellowknife Area. Because of the growing interest in this area the federal government decided to undertake construction of a larger project of some 8,350 hp at a more suitable site on the same river but some 20 miles further north and thus aid and encourage the development of mining in the Yellowknife area.

The Snare River plant and transmission line were commissioned on October 4, 1948 and began delivering power to the first customer, Giant Yellowknife Gold Mines Limited; supply to the town of Yellowknife and the Cominco Limited "Con" mine were connected in 1949 through a short tie line between the terminal of the Snare River transmission line and the Cominco Limited Bluefish-Yellowknife transmission line.

1949

A contract was awarded for construction of the

raccordement de faible longueur, reliant la ligne de transmission du réseau de la rivière Snare à la ligne de transmission de Bluefish à Yellowknife, construite par la société Cominco Limited.

1949

Au cours de l'année, la Commission a fait construire à forfait la grande centrale diesel de production d'énergie électrique, destinée à desservir la région de Fort Smith (T.N.-O.), et elle a aussi fait aménager une petite partie du réseau de distribution.

La Commission, de concert avec le Bureau fédéral des eaux et de l'énergie, convient d'étudier l'aménagement d'une centrale hydro-électrique en vue de desservir les mines d'argent et de plomb du district de Keno Hill, près de Mayo Landing (Yukon); à cette fin, elle entreprend l'étude technique de plusieurs emplacements possibles de forces hydrauliques.

Pour permettre la mise à exécution de ce projet, la Loi est modifiée en mars 1949, de façon à entendre son champ d'action au Yukon. En 1950, M. George Prudham, député et secrétaire parlementaire du ministre des Ressources et du Développement économique, inaugure officiellement la centrale diesel de Fort Smith.

1951 et 1952

La construction de la centrale hydro-électrique de la rivière Mayo commence en mars 1951 et se termine en novembre 1952. La centrale peut alors desservir les exploitations minières de la région de Keno Hill et la localité de Mayo.

1953

On a commencé en avril 1953 à desservir en électricité l'exploitation de la société Consolidated Discovery Yellowknife Mines Limited, située à 42 milles au nord-est de Yellowknife.

1954

En 1954, la Commission fait poser des fils électriques sur les pylônes de la ligne de transmission reliant la centrale de la rivière Snare à la station de distribution électrique de Yellowknife.

1955

La centrale de Fort Smith est agrandie en vue d'y installer un quatrième groupe générateur.

1956

Une nouvelle modification est apportée à la Loi

powerhouse for the central diesel generating plant to supply the Fort Smith, N.W.T. area, and a small portion of the distribution system was also constructed during the year.

In co-operation with the Dominion Water and Power Bureau the Commission agreed to consider development of hydro electric power to supply the silver/lead mines in the Keno Hill district near Mayo Landing, Yukon and an engineering survey of possible power sites was undertaken.

Because of this latter project the Act was amended in March 1949 to extend its provision to include the Yukon Territory. In 1950 the Fort Smith diesel plant was commissioned in October by Mr. George Prudham, M.P., Parliamentary Assistant to the Minister of Resources and Development.

1951 and 1952

Construction of the Mayo River Hydro Electric Development began in March 1951 and was completed in November 1952. Power was supplied to the mines in the Keno Hill area and to the townsite of Mayo.

1953

Delivery of power to the Consolidated Discovery Yellowknife Mines Limited, property some 42 miles to the northeast of yellowknife commenced in April 1953.

1954

A powerline carrier telephone system operating over the transmission line between Snare River Power Plant and the Yellowknife Terminal Station was installed.

1955

An extension to the powerhouse at Fort Smith was constructed to accommodate a fourth generating unit.

1956

The act was further amended to change the name of the Commission to "The Northern Canada Power Commission" and to empower the Commission to supply public utilities defined as electrical and thermal energy, water and sewerage and telephone service; in addition, the Commission was empowered to operate in any Province of Canada subject to the approval of the

afin de changer le nom officiel de la Commission en "Commission d'énergie du Nord canadien" et de l'autoriser à fournir les services d'utilité publique, c'est-à-dire les services d'électricité d'origine hydraulique ou thermique, d'eau, d'égouts et de téléphone; la Commission est en outre autorisée à exploiter des ressources énergétiques, n'importe où au Canada, sous réserve de l'approbation du gouverneur en conseil et en conformité des lois des provinces en cause; de nouvelles dispositions de la Loi permettent aussi à la Commission de financer désormais l'agrandissement ou l'amélioration des centrales et installations.

La Commission approuve la construction d'une centrale d'une puissance installée de 15,000 HP et les travaux commencent en novembre.

1957

La Commission est alors chargée d'appliquer la Loi sur la mise en valeur de l'énergie dans les provinces de l'Atlantique, adoptée par le Parlement en 1957.

En décembre, un deuxième groupe générateur est mis en service à la centrale de la rivière Mayo.

1958

On agrandit les centrales de Fort Smith et de Fort Simpson, en vue d'y installer des groupes générateurs supplémentaires.

A la demande du ministère du Nord canadien et des Ressources nationales, la Commission prend charge, en septembre, de l'exploitation de la centrale électrique et des systèmes de chauffage central et d'approvisionnement en eau de Fort McPherson (T.N.-O.).

En novembre, la centrale hydro-électrique des rapides de Whitehorse est mise en service.

La centrale électrique et le réseau de distribution d'Inuvik (T.N.-O.) sont mis en service en décembre.

1959

La chaufferie centrale et le réseau utilidor sont mis en service à Inuvik (T.N.-O.) au début de 1959.

En février, en vertu d'un contrat de location conclu avec le ministère des Transports, la Com-

Governor-in-Council and the laws of the Province concerned, and provision was made for internal financing of plant expansion or improvements.

Construction of the 15,000 hp hydro generating station at Whitehorse was approved and on-site work commenced in November.

1957

The Commission was appointed to administer the Atlantic Provinces Power Development Act enacted by parliament in 1957.

The #2 generating unit at Mayo River Hydro Plant was placed in operation in December.

1958

Extensions to the Fort Smith and Fort Simpson power plants were constructed to accommodate additional generating equipment.

On the request of the Department of Northern Affairs & National Resources the Commission undertook operation of the power plant and central heating water supply systems at Fort McPherson, N.W.T. in September.

In November the Whitehorse Rapids Hydro Plant was commissioned.

The Inuvik, N.W.T. Electric Generating Plant and Distribution System was placed in Service in December.

1959

The Central Heating Plant and an operation of the utilidor system in Inuvik, N.W.T. was commissioned in early 1959.

Under a rental agreement with the Department of Transport the Commission in February, undertook operation of a 1000 kw diesel plant that had been installed at Frobisher Bay, N.W.T.

An emergency standby plant at Yellowknife and the Field, B.C. diesel generating plant and distribution system were constructed during the summer, the latter being commissioned in December.

1960

Fort Resolution Diesel Plant was constructed and placed in operation in January.

mission prend charge de l'exploitation d'une centrale diesel de 1,000 kW qui vient d'être aménagée à Frobisher Bay (T.N.-O.).

Une centrale de secours est construite à Yellowknife, tandis qu'une centrale électrique diesel et un réseau de distribution sont établis à Field (C.-B.) au cours de l'été et mis en service en décembre.

1960

La centrale électrique diesel de Fort Resolution est construite et mise en service en janvier.

Les premières installations du réseau des services d'utilité publique d'Inuvik sont construites et un groupe électrogène diesel supplémentaire, d'une puissance de 900 kW, est installé à la centrale.

La centrale hydro-électrique des chutes de la Snare est mise en service en décembre.

1961

On installe les derniers groupes électrogènes des centrales diesel de Field et de Fort Resolution.

1962

On installe des groupes diesel supplémentaires aux centrales de Fort Simpson et de Fort Smith et, à la demande du ministère du Nord canadien et des Ressources nationales, la Commission prend charge de l'exploitation de la centrale diesel d'Aklavik (T.N.-O.), à titre d'argent du ministère.

1963

La construction de la nouvelle chaufferie centrale et de la centrale électrique de Frobisher Bay commence en septembre.

La Commission fait installer un groupe diesel lourd d'une puissance de 1,000 kW à la centrale d'Inuvik et entreprend un important agrandissement du réseau de conduites utilidor en vue de desservir les nouvelles maisons que le gouvernement fédéral a fait construire pour ses employés.

1964

La nouvelle centrale électrique et la chaufferie centrale de Frobisher Bay sont mises en service en mars, tandis que la Commission entreprend à forfait, pour le compte du ministère du Nord canadien et des Ressources nationales, d'exploiter la nouvelle usine de filtration des eaux, ainsi que la chaufferie et le service d'eau de l'Immeu-

Initial construction of the Inuvik Utilities System was completed and an additional diesel generating unit (900 kw) was installed in the power plant.

The Snare Falls Hydro Electric Plant was placed in operation in December.

1961

Additional generating units were installed to complete the Field and Fort Resolution Diesel plants.

1962

Additional diesel units were installed in Fort Simpson and Fort Smith plants and at the request of the Department of Northern Affairs & National Resources the Commission assumed responsibility for operation of the diesel plant at Aklavik, N.W.T. on an agency basis.

1963

Construction began in September of the new Frobisher Bay Central Heating and Power generating station.

A 1000 kw heavy duty diesel unit was installed in the Inuvik generating plant and a major extension of the utilidor system was constructed to serve new federal government residential premises.

1964

The new Frobisher Bay Central Generating and Heating Plant was commissioned in March and operation of the new Water Treatment Plant and the Heating and Water Supply System associated with the federal building was undertaken by the Commission under contract with the Department of Northern Affairs & National Resources. During the year construction began on the Taltson River Hydro Project and the 175 mile Twin Gorges to Pine Point transmission line. On April 1 responsibility for operation of the utilities plant supplying the Department of National Health & Welfare on Moose Factory Island, Ontario was transferred from that Department to the Commission.

ble Fédéral. Au cours de l'année, on entreprend la construction de la centrale hydro-électrique de la rivière Taltson, ainsi que celle d'une ligne de Transmission de 175 milles reliant Twin Gorges à Pine Point. Le 1er avril, la Commission prend charge de l'usine des services d'utilité publique desservant les bâtiments du ministère de la Santé nationale et du Bien-être social, dans l'île de Moose Factory (Ontario), qui, jusque-là, était exploitée par ce dernier organisme.

La Commission décide d'installer à Yellowknife la cabine de télécommande des centrales de la Snare et des chutes de la Snare. Elle fait construire à cet endroit un bâtiment de plain-pied comprenant une salle de commande, des bureaux et un garage.

1965

Au début de l'année, la Commission fait transporter l'équipement de télécommande des centrales des rapides et des chutes de la Snare, rendant ainsi possible leur télécommande depuis Yellowknife.

La Commission fait construire à Fort Smith un bâtiment devant servir de télécommande et de bureau d'administration, ainsi qu'une station de raccordement et de distribution d'électricité.

Le 29 octobre, l'honorable E.J. Benson, ministre du Revenu national, inaugure les installations hydro-électriques de la rivière Taltson, tandis que la centrale diesel de Fort Smith est réduite par la suite au rôle de centrale de secours.

On installe deux chaudières à vapeur et un groupe diesel de 600 kW à la centrale électrique et chaufferie centrale de Frobisher Bay.

1966

Le 1er novembre 1966, la Commission prend charge de la centrale diesel de Cambridge Bay, dans les Territoires du Nord-Ouest, laquelle était jusque-là exploitée par le ministère des Transports.

La Commission se charge, le 1er octobre, de la distribution de l'eau et de l'énergie électrique à Dawson, au Yukon. Elle y construit un nouveau réseau de distribution électrique et une nouvelle centrale qui sera équipée de trois groupes électrogènes diesel, chacun développant une puissance de 250 kW.

It was decided to move the operational control center of the Snare Rapids and Snare Falls plants to Yellowknife. A one storey building comprising, control room, office space and vehicle garage was constructed in Yellowknife.

1965

Control equipment and three residences were transferred from Snare Rapids and Snare Falls and these plants were placed on remote control operation from Yellowknife in the early part of the year.

A building to serve as the control center and local administration office and a stepdown substation were constructed in Fort Smith.

The Taltson Hydro Electric Development was commissioned on October 29 by the Honourable E.J. Benson, Minister of National Revenue and the Fort Smith Diesel Plant was subsequently reduced to standby operation.

At Frobisher Bay two steam boilers and an 600 kw diesel unit were installed in the central generating and heating plant.

1966

Operation of the diesel plant at Cambridge Bay, N.W.T. was transferred from the Department of Transport to the Commission on November 1, 1966.

At Dawson, Y.T. the Commission assumed responsibility on October 1 for the distribution of power and water. A new powerhouse was constructed to house three - 250 kw diesel units together with a new electric distribution system.



CANADA POWER COMMISSION

- THERMAL PLANT
- HYDRO PLANT
- UTILITY PLANT
- TRANSMISSION LINE
- HIGHWAY
- RAILWAY

- ALASKA
- YUKON TERRITORY
- BRITISH COLUMBIA
- SASKATCHEWAN
- MANITOBA
- ONTARIO
- QUEBEC
- NEW BRUNSWICK
- NEW FOUND

- AKLAVIK
- FORT MACPHERSON
- INUVIK
- DAWSON
- ELSA
- KENO HILL
- MAYO
- WHITEHORSE
- ALASKA HIGHWAY
- RAE
- SNAPE RAPIDS
- SNAPE FALLS
- YELLOWKNIFE
- PINE POINT
- FORT RESOLUTION
- TWIN GORGES
- FORT SMITH
- WATERWAYS
- EDMONTON
- FIELD
- MOOSE FACTORY
- OTTAWA

- CAMBRIDGE BAY
- COPPERMINE
- NORMAN WELLS
- FORT SIMPSON
- BAKER LAKE
- CHESTERFIELD INLET
- FROBISHER BAY



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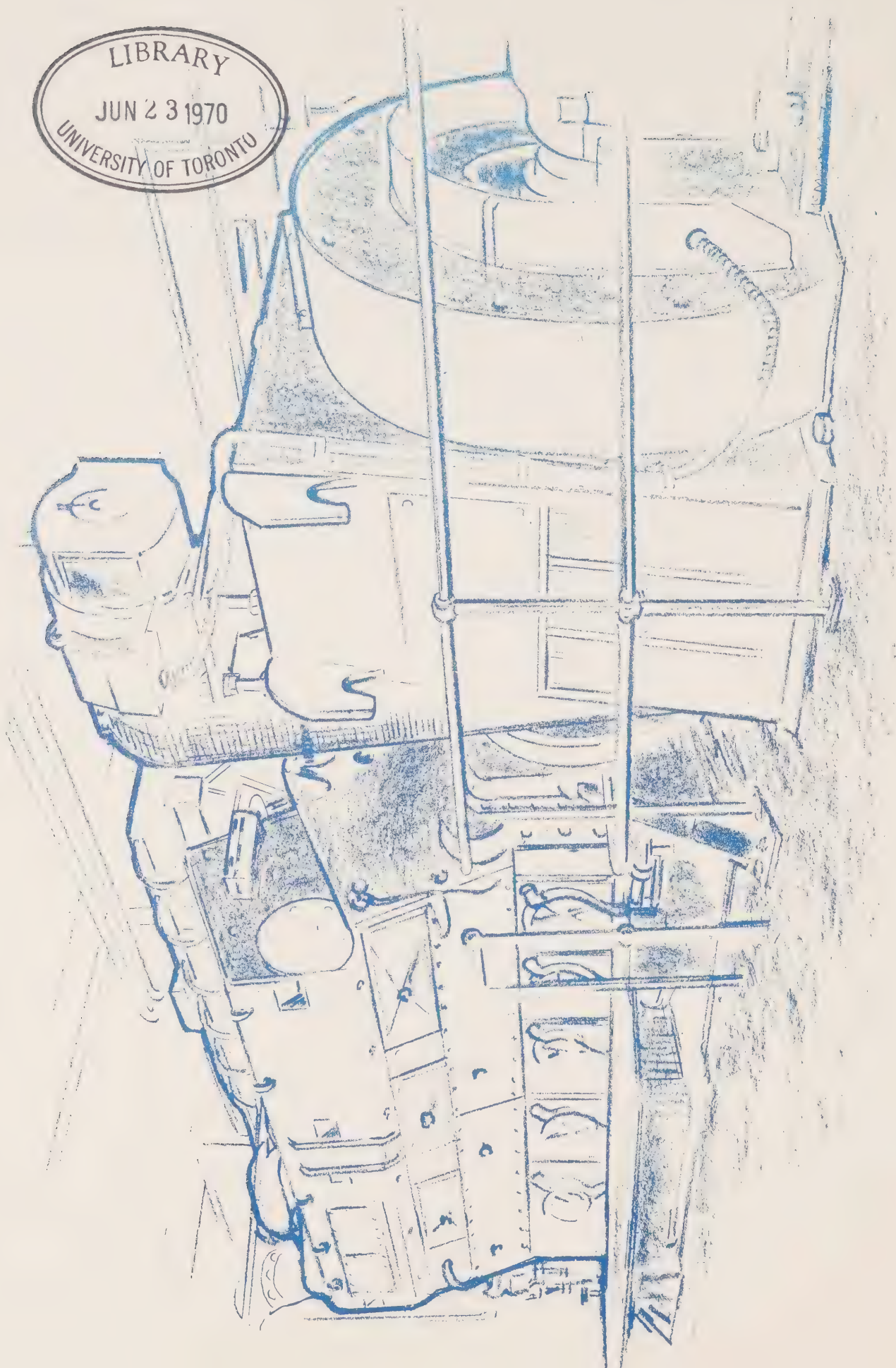
Review of Operations Revue de l'Exploitation



1967-68

Northern Canada Power Commission
Commission d'énergie du nord canadien





1000KW DIESEL GENERATING SET - FROBISHER BAY, N.W.T.

REVIEW OF OPERATIONS



REVUE DE L'EXPLOITATION

1967-68

This is a summary of the 20th Annual Report submitted by the Northern Canada Power Commission to The Honourable Arthur Laing, M. P., Minister of Indian Affairs and Northern Development, and tabled before Parliament by the Minister, in accordance with Section 24 of the Northern Canada Power Commission Act, Chapter 42, 4-5 Eliz. II.

La présente publication est un résumé du 20^e rapport annuel soumis par la Commission d'énergie du Nord canadien à l'honorable Arthur Laing, député et ministre des Affaires indiennes et du Nord canadien, et déposé par le ministre devant le Parlement, en conformité de l'article 24 de la Loi sur la Commission d'énergie du Nord canadien, chapitre 42, 4-5, Elisabeth II.

NORTHERN CANADA POWER COMMISSION

COMMISSION D'ÉNERGIE DU NORD CANADIEN

CHAIRMAN

J. A. MacDonald

PRÉSIDENT

MEMBERS

T. M. Patterson
J. F. Parkinson

MEMBRES

GENERAL MANAGER CHIEF ENGINEER

E. W. Humphrys

DIRECTEUR GÉNÉRAL ET INGÉNIEUR EN CHEF

SECRETARY – COMPTROLLER

T. A. Stott

SECRÉTAIRE – TRÉSORIER

HEAD OFFICE

251, Bank Street, Ottawa, Canada

BUREAU CENTRAL

THE NORTHERN CANADA POWER COMMISSION

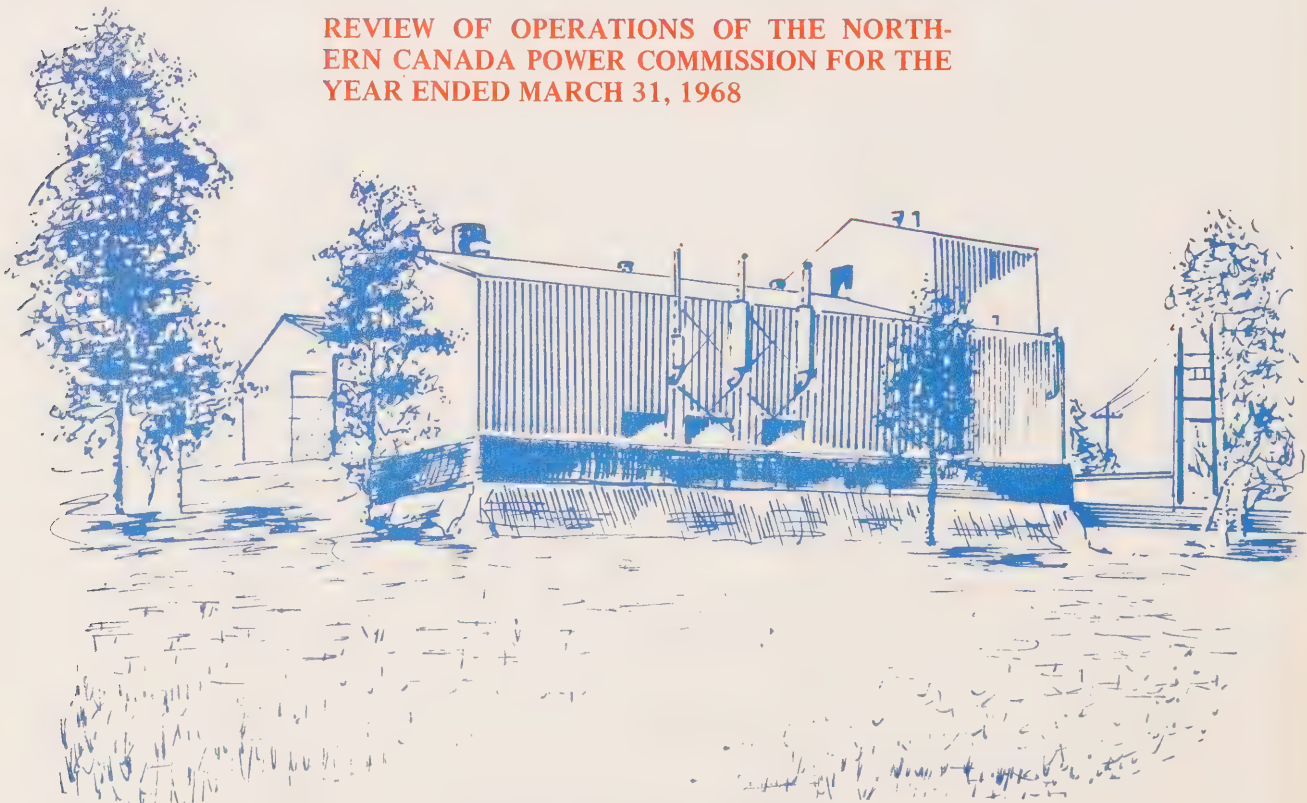
operates under authority of the Northern Canada Power Commission Act (4-5 Eliz. II, Chap. 42). The Commission is empowered to construct and operate public utility plants in the Northwest Territories, Yukon Territory, and, subject to approval of the Governor General in Council, elsewhere in Canada. It is a requirement of the authorizing Act that projects undertaken by the Commission shall be self-sustaining, consequently rates charged for utilities supplied must provide sufficient revenue to cover interest on investment, repayment of principal over a period of years, operating and maintenance expenses and a contingency reserve. The Commission is thus a Federal Government Agency concerned with the construction and management of public utilities on a commercial basis.

INTRODUCTION

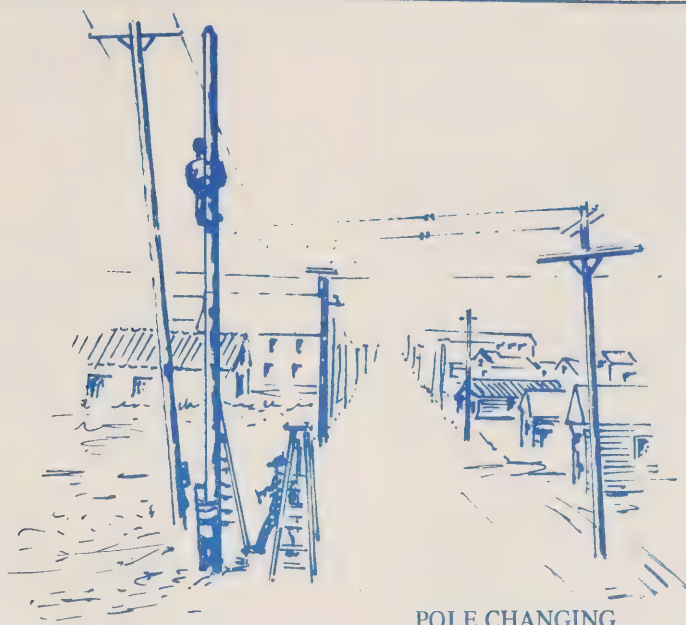
The Commission's operations now comprise five hydro generating stations, ten independent diesel electric plants and three thermal stations forming part of "Utility" plants which supply power, central heat, water and sewerage services.

Mr. E. A. Cote resigned as Chairman of the Commission on his appointment as Deputy Minister, Department of Veterans Affairs. Mr. J. A. MacDonald, who succeeded Mr. Cote as Deputy Minister of Indian Affairs and Northern Development was appointed Chairman of the Commission effective March 1, 1968.

REVIEW OF OPERATIONS OF THE NORTHERN CANADA POWER COMMISSION FOR THE YEAR ENDED MARCH 31, 1968



INUVIK POWER HOUSE, N.W.T.



POLE CHANGING,
DAWSON CITY, Y.T.

REVUE DE L'EXPLOITATION DE LA COMMISSION D'ÉNERGIE DU NORD CANADIEN POUR L'EXERCICE TERMINE LE 31 MARS 1968

LA COMMISSION D'ÉNERGIE DU NORD CANADIEN

a été créée en vertu de la Loi sur la Commission d'énergie du Nord canadien (chap. 42, 4-5, Elisabeth II.) La Commission est autorisée à aménager et à exploiter des installations d'utilité publique dans les Territoires du Nord-Ouest et dans le Yukon, et même ailleurs au Canada sous réserve de l'approbation du gouverneur général en conseil. La loi exige que chacune des entreprises exploitées par la Commission fasse ses frais; par conséquent, le tarif des services public qu'elle fournit, doit être établie en vue de rapporter un revenu permettant d'acquitter l'intérêt sur le capital immobilisé, de rembourser le capital d'immobilisation au cours d'un certain nombre d'années, de couvrir les frais d'exploitation et d'entretien, ainsi que d'accumuler une réserve pour éventualités diverses. La Commission est donc un organisme fédéral chargé de l'aménagement d'entreprises d'utilité publique de caractère commercial.

INTRODUCTION

La Commission exploite maintenant cinq centrales hydro-électriques, dix centrales diesel indépendantes et trois centrales thermiques, lesquelles font partie du réseau d'usines d'utilité qui fournissent l'électricité, le chauffage, l'eau et le service d'égout.

M. E. A. Côté s'est démis de ses fonctions de président de la Commission, à la suite de sa nomination à titre de sous-ministre des Affaires des anciens combattants. M. J. A. MacDonald, qui a succédé à M. Côté comme sous ministre des Affaires indiennes et du Nord canadien, a été nommé président de la Commission dès le 1^{er} mars 1968.

HYDRO STATIONS

The Yellowknife (Snare River) Hydro System, N.W.T. experienced a minor decrease in total generation and income during the past year, primarily due to a less severe winter and a consequent decrease in power consumption by electric boilers.

Construction of a 28 mile 115 KV transmission line was undertaken to connect the settlements of Rae and Frank Channel, N.W.T. to the Yellowknife (Snare River) Hydro System and replace existing diesel generation.

The output of the Mayo River Power Plant, Y.T. increased by 4⁰/o during the year to reverse the experience of the two previous years when there was a marked decrease due to cutbacks in mining activities in the area.

Generation at the Whitehorse Rapids Hydro Plant, Y.T. increased by 24⁰/o due mainly to demands of a

new copper mine (New Imperial Mines Limited) which was connected early in the year through transmission facilities provided by the Yukon Electric Company Limited.

At year-end, work was underway in relation to the installation of a third unit in the present Whitehorse Hydro Plant and on foundations for a 9,000 KW diesel generating station (2 units) to be installed adjacent to the hydro plant to serve during peak periods and for standby purposes. The diesel station is to be completed in November 1968, the hydro unit installation in July 1969.

Clearing of the right-of-way for a transmission line from Whitehorse, Y.T. to a development by Anvil Mining Corporation Limited in the Van Gorda Creek area was undertaken in March 1968 with construction scheduled to follow for completion in May 1969.

The Twin Gorges Hydro Plant (Taltson River, N.W.T.), now in its third year of operation, increased output

OPERATIONAL HIGHLIGHTS FAITS MARQUANTS DE L'EXPLOITATION

CENTRALES HYDRO-ÉLECTRIQUES

Le réseau hydro-électrique de Yellowknife (rivière Snare), dans les Territoires du Nord-Ouest, a connu une légère diminution tant de la production globale que des recettes. Cette baisse est due à ce que les chaudières électriques ont consommé moins d'énergie que l'année précédente, en raison d'un hiver peu rigoureux.

La Commission a entrepris d'ériger une ligne de transmission de 28 milles de longueur et d'une tension de 115 KV, afin de relier les établissements de Rae et de Frank Channel (T.N.-O.) au réseau hydro-électrique de Yellowknife, qui leur fournira l'électricité indispensable, actuellement produite au moyen de diesels.

La production de la centrale hydro-électrique de la rivière Mayo (Yukon) a augmenté de 4 p. 100 au cours de l'année dernière, ce qui a compensé en partie la diminution de la demande d'énergie électrique à des fins minières au cours des deux années précédentes.

La production de la centrale hydro-électrique des rapides de Whitehorse (Yukon) a augmenté de 24 p. 100, en raison principalement de la demande d'éner-

gie électrique d'une nouvelle mine de cuivre, exploitée par la société New Imperial Mines Limited. Ce chantier a été relié à la centrale au début de l'année au moyen d'installations de transmission fournies par la Yukon Electric Company Limited.

A la fin de l'année, on installait un troisième groupe électrogène dans la centrale hydro-électrique de Whitehorse et on commençait des travaux d'aménagement des fondations d'une centrale électrique diesel de secours de 9,000 kilowatts (deux groupes électrogènes) qui sera construite tout près de la centrale actuelle et qui servira aussi lors des périodes de pointe. Alors que la construction de la centrale sera terminée en novembre 1968, la fin des travaux d'installation du groupe électrogène de la centrale hydro-électrique est prévue pour juillet 1969.

Le défrichement de l'emprise d'une ligne de transmission qui reliera Whitehorse (Yukon) à l'exploitation de l'Anvil Mining Corporation Limited dans la région du ruisseau Vangorda, en mai 1969, a été entamé en mars 1968.

La centrale hydro-électrique des Twin Gorges de la rivière Taltson (T.N.-O.), qui en est à sa troisième

by nearly 20% over the previous year due to increased consumption by Pine Point Mines Limited and the communities of Fort Smith and Pine Point, N.W.T.

A rock-fill storage dam was built on the upper Taltson River at the outlet of Nonacho Lake to store water in Nonacho Lake to ensure that future winter water flow will be adequate to meet anticipated increased demands on the Twin Gorges Hydro Plant, N.W.T. due to the expansion of operations by Pine Point Mines Limited in 1969.

THERMAL PLANTS

Power generation by the diesel plants at Aklavik, Fort McPherson, Fort Resolution and Inuvik, N.W.T., at Field, B.C. and at Moose Factory, Ontario, increased

année d'exploitation, a haussé sa production de près de 20 p. 100 de plus que l'année précédente, en raison de l'augmentation de la consommation d'énergie électrique par la société Pine Point Mines Limited et par les localités de Fort Smith et de Pine Point (T.N.-O.).

Un barrage en empierrement a été aménagé en amont de la rivière Taltson, à l'embouchure du lac Nonacho, en vue d'accumuler les eaux de ce dernier, de façon à régulariser le débit d'eau en hiver pour satisfaire la demande qui augmentera vraisemblablement à la centrale hydro-électrique des Twin Gorges (T.N.-O.), en raison de l'expansion des exploitations de la société Pine Point Mines Limited, en 1969.

CENTRALES THERMO-ÉLECTRIQUES

La production des usines diesels d'Aklavik, de Fort McPherson, de Fort Resolution et d'Inuvik, dans les Territoires, ainsi que celles de Field (C.-B.) et de Moose Factory (Ont.) a augmenté de 5 à 9 p. 100, tandis que le rendement des centrales de Fort Simpson et de Frobisher Bay (T.N.-O.) est sensiblement demeuré au même niveau que l'année précédente. Etant donné que l'année sur laquelle porte le présent rapport, était la première année complète d'explo-

by 50% to 90% while output of the Fort Simpson and Frobisher Bay, N.W.T. plants was substantially unchanged from the previous year. The year under review was the first full year of operation for the Cambridge Bay, N.W.T. and Dawson, Y.T. plants, consequently comparative statistics are not available.

PLANT CONSTRUCTION

A 200 KW diesel unit was installed in the Fort Simpson, N.W.T. plant (replacing a 75 KW unit) to provide adequate standby reserve.

A 1,000 KW diesel unit was moved from Fort Smith, N.W.T. and installed in a newly constructed extension of the powerhouse at Inuvik, N.W.T.

Reconstruction of the Office/Stores Building at Inuvik, N.W.T. which was damaged by fire in October 1966 was completed.

tation des usines de Cambridge Bay (T.N.-O.) et de Dawson (Yukon) nous ne possédons pas de données suffisantes à leur sujet, pouvant servir à établir une comparaison statistique.

TRAVAUX DE CONSTRUCTION

Un groupe électrogène diesel de 200 Kilowatts a été installé dans la centrale de Fort Simpson (T.N.-O.), en remplacement d'un groupe de 75 kilowatts; cette centrale disposera ainsi d'une réserve de secours suffisante.

Un groupe générateur diesel de 1,000 kilowatts a été transporté de Fort Smith (T.N.-O.) à Inuvik (T.N.-O.), où il fut placé dans une annexe nouvellement construite de la centrale de cette localité.

On a terminé la reconstruction du bâtiment qui abritait les bureaux et les magasins, à Inuvik (T.N.-O.), lequel avait été la proie des flammes en octobre 1966.

Le prolongement de 3,000 pieds du réseau utilidor d'Inuvik (T.N.-O.), lequel assure les services indispensables aux nouveaux logements et aux nouvelles écoles du gouvernement fédéral, est en voie de construction; la moitié (près de 1,500 pieds) est

A 3,000 ft. extension to the Inuvik, N.W.T. utilidor system to supply services to new federal housing and a new school was under construction of which approximately 1,500 ft. was completed and commissioned for service in the fall of 1967, the remainder being scheduled for completion in July 1968.

Design studies were carried out in connection with a proposal to provide water and sewerage services only (without central heating facilities as these are included in the standard utilidor arrangement) to a portion of the heretofore "unserved" area within the townsite of Inuvik, N.W.T.

Two 250 KW diesel units were moved from a temporary location and installed to complete the new central power plant at Fort McPherson, N.W.T.

An addition to the Moose Factory, Ontario, water and sewerage system was built to accommodate new housing.

A 1,000 ft. extension to the Moose Factory, Ontario, water and sewerage system was built to accommodate new housing.

terminée et a été mise en service à l'automne de 1967; la fin des travaux est prévue pour juillet 1968.

Des études ont été faites relativement à l'aménagement possible des services d'eau et d'égout (sans les installations de chauffage central, comprises normalement dans le réseau utilidor) dans un quartier du lotissement urbain d'Inuvik (T.N.-O.), qui n'est actuellement pourvu d'aucun service de ce genre.

Deux génératrices diesel de 250 kilowatts ont été transportées de leur emplacement temporaire à Fort McPherson (T.N.-O.), pour être installées dans la nouvelle centrale électrique.

On a construit, au cours de l'année, une annexe à la centrale de Moose Factory (Ont.), afin que cette dernière reçoive trois groupes générateurs diesel; de nombreuses autres installations de matériel ont été faites à cet endroit.

On a prolongé de 1,000 pieds le réseau d'eau et d'égout de Moose Factory (Ont.), afin de fournir ces services aux nouvelles habitations.

La construction du nouveau réseau de distribution

At Dawson, Y.T., construction of the new distribution system undertaken in 1966 was completed.

Renovation of the water supply system at Dawson, Y.T. was completed. This included installation of new pumps, replacement and rearrangement of water mains including service lines and installation of exhaust gas boilers and heat exchangers in the powerhouse to permit utilization of waste heat from the diesel engines to heat the water supply during winter months.

At Coppermine, N.W.T., a new diesel generating plant comprising three 200 KW units and a distribution system were constructed and commissioned in the fall of 1968.

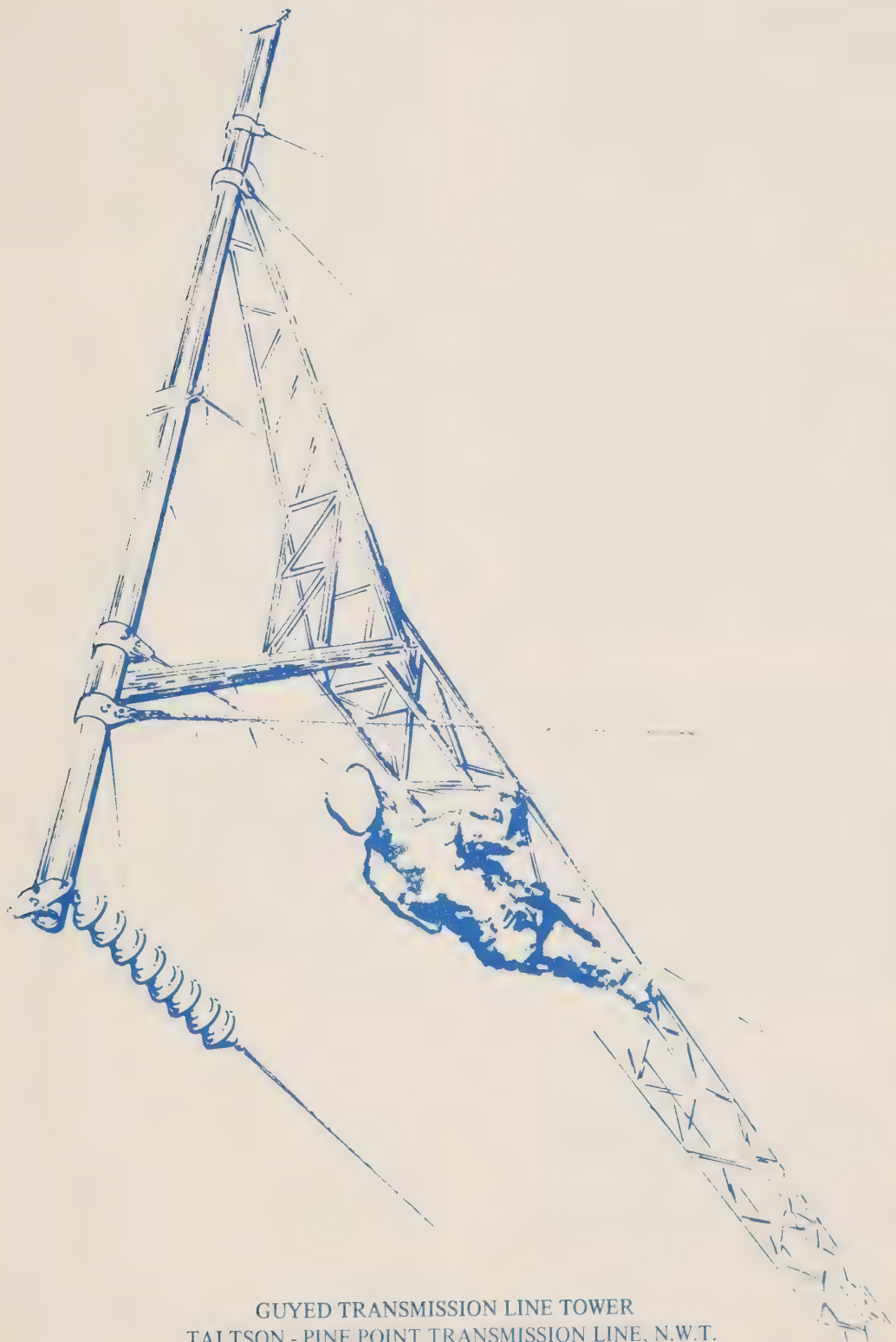
An extension to the Cambridge Bay, N.W.T. powerhouse was constructed to accommodate two 250 KW diesel units, one unit was installed and commissioned during the year, the second is to be installed during 1968.

d'électricité, de Dawson (Yukon), entreprise en 1966, est terminée.

On a également terminé les travaux de rénovation du réseau d'approvisionnement d'eau, à Dawson (Yukon). Ces travaux comprenaient l'installation de nouvelles pompes, de même que le remplacement et le réarrangement des canalisations d'eau, y compris les conduites de branchement; le programme prévoyait aussi l'installation de chaudières à gaz d'échappement et d'échangeurs de chaleur dans la centrale, afin de récupérer la chaleur de combustion des moteurs diesel, aux fins de chauffage du réseau d'approvisionnement d'eau, au cours des mois d'hiver.

Une nouvelle centrale diesel, comprenant trois groupes de 200 KW et un réseau de distribution, a été construite et ouverte à l'automne de 1968, à Coppermine (T.N.-O.).

On a construit une annexe à la centrale de Cambridge Bay (T.N.-O.) pour loger deux génératrices diesel de 250 KW; l'une a été installée et a commencé à fonctionner au cours de l'année, tandis que l'autre le sera au cours de 1968.



GUYED TRANSMISSION LINE TOWER
TALTSON - PINE POINT TRANSMISSION LINE, N.W.T.

PERSONNEL

At year end, full time staff totalled 271 comprising 56 at Head Office (Ottawa), 4 in the Edmonton Office and 211 at the plants. Payroll for operations during the year (including short term casual employees) totalled \$2,224,172 of which \$454,660 was recoverable in respect to contract work performed on behalf of government departments and others.

CONTRACT WORK

The Aklavik power plant, the hostel heating plant and the water supply and sewerage systems at Fort McPherson, N.W.T., the central heating and water treatment plants at Fort Simpson, N.W.T. and the Frobisher Bay, N.W.T. water treatment plant were operated by the Commission on behalf of the Department of Indian Affairs and Northern Development. In addition, miscellaneous electrical and mechanical services were provided including occasional

installations and construction work for government departments and others at these and other locations. All contract work was done on a cost recoverable basis including a surcharge on labour expense to offset general overhead which is shown as "Head Office Assessment" under "Contract Work" in the financial statements of this report. This surcharge totalling \$151,247 reduced the general overhead assessment of the several utility operations from which it was derived.

SUBSIDIARY COMPANIES

The Commission's wholly-owned subsidiary companies, The Dawson City Water and Power Company Limited, the Dawson Electric Light and Power Company Limited and the Yukon Telephone Syndicated Limited ceased operations when their assets and liabilities were taken over by the Commission effective October 1, 1966. The wind-up of each of these companies' affairs is proposed during 1968-69.

PERSONNEL

À la fin de l'exercice financier, l'effectif permanent comptait 271 employés, dont 56 au bureau central à Ottawa, 4 au bureau d'Edmonton et 211 dans les centrales et les usines. Le total des traitements et des salaires, y compris ceux des employés temporaires, s'est élevé à \$2,224,172, dont la somme de \$454,660 est recouvrable, puisqu'il s'agit de frais de main-d'oeuvre découlant de travaux à forfait exécutés pour le compte de certains ministères et autres organismes.

TRAVAUX À FORFAIT

La Commission a exploité la centrale d'Aklavik, la chaufferie de l'auberge et le réseau d'eau et d'égout, à Fort McPherson, la chaufferie centrale et l'usine de filtration d'eau de Fort Simpson (T.N.-O.), ainsi que l'usine de filtration d'eau de Frobisher Bay, pour le compte du ministère des Affaires indiennes et du Nord canadien. En outre, elle a exécuté des travaux de construction et d'entretien de matériel électrique et mécanique, y compris des travaux d'installation et

de construction qu'elle a effectués en divers endroits pour d'autres ministères et organismes fédéraux. Tous les travaux à forfait, dont les frais sont recouvrables, ont été exécutés au prix coûtant majoré d'une surtaxe sur les frais de main-d'oeuvre, afin de compenser les frais généraux qui apparaissent sous "Travaux à forfait" dans l'état des recettes et des dépenses sous la rubrique "Part assignée des frais d'administration centrale", dans le présent rapport. Cette surtaxe a rapporté un montant de \$151,247, ce qui a réduit la part des frais généraux assignée à chacune des entreprises.

FILIALES

Dawson City Water and Power Company Limited, Dawson Electric Light and Power Company Limited et Yukon Telephone Syndicated Limited, filiales dont la Commission est entièrement propriétaire, ont mis fin à leurs exploitations le 1^{er} octobre 1966, lorsque la Commission a pris en charge l'administration de leur actif et de leur passif respectifs. La dissolution de chacune de ces filiales est prévue pour 1968-1969.

FINANCIAL

Funds to finance the construction of power projects are advanced to the Commission by the Minister of Finance as long term loans repayable by amortization. Commission-owned utilities are operated on a self-sustaining basis and profits or losses are not transferable between plants. Power rates are established at the level necessary to meet operating costs in accordance with section 10 of the Northern Canada Power Commission Act.

THE ATLANTIC PROVINCES POWER DEVELOPMENT ACT

The Atlantic Provinces Power Development Act (1958) provides for agreements between the Government of Canada and the Governments of the Atlantic Provinces and for subsidiary agreements covering specific projects between the Northern Canada Power Commission and the respective Provincial Power

Commissions whereby assistance may be provided in respect to the generation and transmission of electric power. Such assistance takes the form of long term loans to cover the cost of constructing thermal power plants and high voltage transmission lines and the payment of a subvention on coal mined and used in the Atlantic Provinces for the generation of electricity. The loans in connection with thermal power plants are repayable over the 30 year period following completion of construction and those relating to transmission lines are repayable over 40 years.

Funds for subvention purposes are provided by parliamentary appropriation and during the fiscal year ending March 31, 1967 \$817,868.88 was paid to the New Brunswick Electric Power Commission and \$1,566,976.03 was paid to the Nova Scotia Power Commission in relation to coal usage for generating electricity.

MODALITÉS DE FINANCEMENT

Les fonds nécessaires à la construction de centrales électriques sont avancés par le ministre des Finances et sont remboursables par amortissement. Une fois en service, les centrales sont exploitées de manière à faire leurs frais, les profits ou pertes n'étant pas transmissibles d'une centrale à l'autre. Les tarifs de l'électricité sont établis en conformité de l'article 10 de la Loi sur la Commission d'énergie du Nord canadien, c'est-à-dire de façon à couvrir les frais d'exploitation.

LOI SUR LA MISE EN VALEUR DE L'ÉNERGIE DANS LES PROVINCES DE L'ATLANTIQUE

La Loi de 1958 sur la mise en valeur de l'énergie dans les provinces de l'Atlantique prévoit la conclusion d'accords entre le gouvernement du Canada et les gouvernements respectifs des provinces de l'Atlantique, ainsi que d'accords concernant certains travaux d'aménagement, entre la Commission d'énergie du Nord canadien et les diverses Commissions provinciales de l'énergie; ces accords ont pour objet d'accorder de

l'aide aux organismes provinciaux en vue de favoriser la production et la distribution d'électricité. Cette aide peut se traduire en prêts à long terme en vue de la construction de centrales thermo-électriques et de lignes de transmission de courant à haute tension, ainsi qu'en subventions à l'extraction de la houille dans les provinces de l'Atlantique aux fins de la production d'énergie électrique. Les prêts relatifs aux centrales thermo-électriques sont remboursables en 30 ans, à compter du parachèvement des installations; les prêts concernant les lignes de transmission sont remboursables en 40 ans.

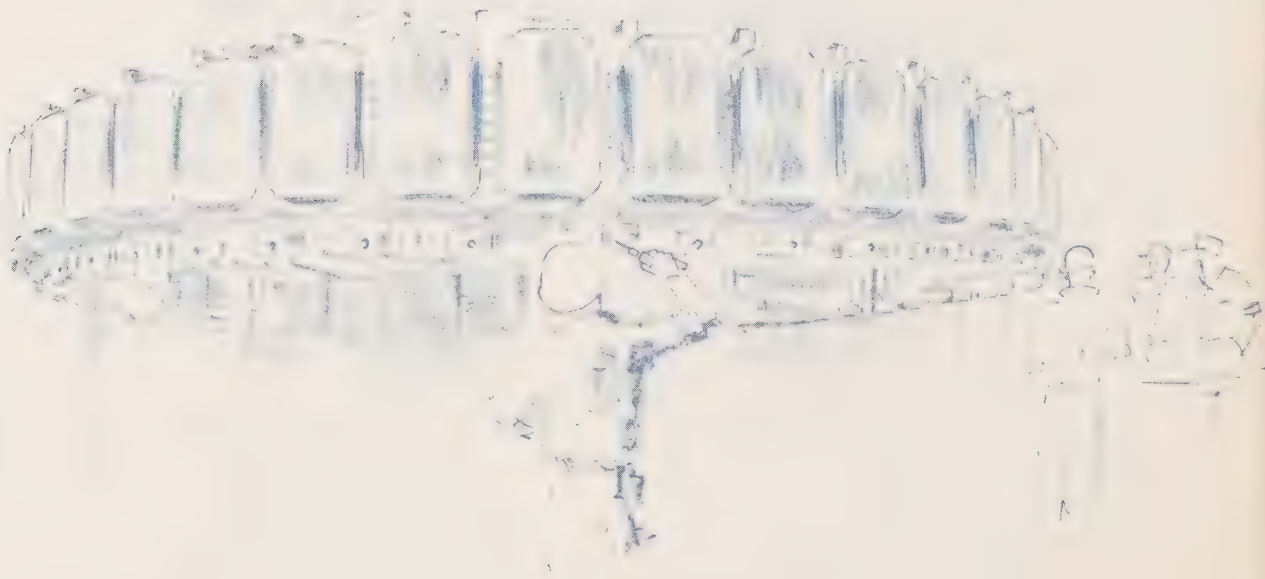
C'est le gouvernement qui affecte les fonds aux fins de subventions et, de cette façon, au cours de l'année financière terminée le 31 mars 1967, la Commission de l'énergie électrique du Nouveau-Brunswick a reçu une somme de \$817,868.88, tandis que la Commission de l'énergie de la Nouvelle-Ecosse a reçu un montant de \$1,566,976.03, selon la quantité de houille consommée par ces deux sociétés.

FINANCIAL STATEMENTS

Included in this review of operations are Notes to the Financial Statements (Exhibit I) which reflect the financial position of the Commission's accounts as of 31 March 1968, the Consolidated Balance Sheet of the Commission and Subsidiary Companies (Exhibit II) as certified by the Auditor General of Canada together with related Statement of Income and Expense (Exhibit III) and Statement of Earned Surplus (Exhibit IV). Also included, to provide details in relation to individual plants is the supplementary Statement of Income and Expense, by plants, for the fiscal year ending 31 March 1968 (Exhibit V).

ETATS FINANCIERS

La présente revue comprend des remarques au sujet des états financiers (document I), le bilan général de la Commission et de ses filiales (document II), certifié comme étant conforme par l'auditeur général du Canada ainsi qu'un état des recettes et dépenses (document III), et un état des bénéfices réalisés (document IV), lesquels témoignent tous de la situation financière de la Commission au 31 mars 1968. En vue de fournir des données détaillées au sujet des diverses centrales, la présente revue comprend aussi l'état des recettes et dépenses de chacune d'elles, pour l'exercice terminé le 31 mars 1968 (document V).



ALTERNATOR ROTOR, TWIN GORGES POWER PLANT, TALTSON RIVER, N.W.T.

NORTHWEST TERRITORIES

YELLOWKNIFE

Snare Rapids Plant
1 Unit -- 8,350 HP

Snare Falls Plant
1 Unit -- 9,200 HP

Yellowknife Standby Diesel Plant
1 Unit -- 1,000 KW

FORT SMITH/PINE POINT

Taltson River Hydro Plant
1 Unit -- 25,000 HP

Fort Smith Diesel Standby Plant
4 Units -- 2,250 KW total

FORT SIMPSON

Fort Simpson Diesel Plant
4 Units -- 1,225 KW total

Central Heating, Water and Sewerage Systems operated by the Commission on behalf of the Department of Indian Affairs and Northern Development.

FORT RESOLUTION

Fort Resolution Diesel Plant
3 Units -- 325 KW total

INUVIK

Inuvik Utilities Plant
Power, Central Heating, Water and Sewerage Systems.

1 Steam Turbine -- 600 KW
6 Diesels -- 3,900 KW
Total Capacity -- 4,500 KW

FROBISHER BAY

Frobisher Bay Utilities Plant
Power and Central Heating Plant

1 Gas Turbine -- 1,500 KW
3 Diesel Units -- 2,500 KW
Total Capacity -- 4,000 KW

NORTHERN CANADA POWER COMMISSION PLANT INSTALLATIONS

COMMISSION D'ÉNERGIE DU NORD CANADIEN CENTRALES EN EXPLOITATION

TERRITOIRES DU NORD-OUEST

YELLOWKNIFE

Réseau de centrales hydro-électrique de Yellowknife
(rivière Snare)

Centrale des rapides de la Snare
1 groupe électrogène -- 8,350 HP

Centrale des chutes de la Snare
1 groupe électrogène -- 9,200 HP

Centrale diesel de secours de Yellowknife
1 groupe électrogène -- 1,000 KW

FORT SMITH ET PINE POINT

Centrale hydro-électrique de la rivière Taltson
1 groupe électrogène -- 25,000 HP

Centrale diesel de secours de Fort Smith
4 groupes électrogènes -- 2,250 KW au total

FORT SIMPSON

Centrale diesel de Fort Simpson
4 groupes électrogènes -- 1,225 KW au total

La Commission exploite la chaufferie centrale et le service d'eau et d'égout pour le compte du ministère des Affaires indiennes et du Nord canadien.

FORT RESOLUTION

Centrale diesel de Fort Resolution
3 groupes électrogènes -- 325 KW au total

INUVIK

Réseau des services d'utilité publique d'Inuvik
Centrale électrique, chaufferie centrale et service d'eau et d'égout

1 groupe turbo-générateur à vapeur -- 600 KW
5 groupes générateurs diesel -- 3,900 KW
Production totale -- 4,500 KW

FROBISHER BAY

Réseau des services d'utilité publique de Frobisher Bay
Centrale électrique et chaufferie centrale

- 2 -- 15,000,000 BTU/hr High Temp. hot water generator
- 1 -- 12,000,000 BTU/hr Exhaust gas/high Temp hot water generator
- 2 -- Steam Generators 13,000 lbs. Steam/hr total

Domestic Water Treatment Plant operated on behalf of the Department of Indian Affairs and Northern Development.

CAMBRIDGE BAY

Cambridge Bay Diesel Plant
4 Units -- 850 KW total

FORT McPHERSON

Fort McPherson Utilities Plant
4 Units -- 750 KW total

Diesel Generating Plant, Hostel Heating Plant, Water Supply and Sewerage Systems operated by the Commission on behalf of the Department of Indian Affairs and Northern Development.

AKLAVIK

Aklavik Diesel Plant
5 Units -- 470 KW total

- 1 groupe turbo-générateur à gaz -- 1,500 KW
- 3 groupes générateurs diesel -- 2,500 KW
- Production totale -- 4,000 KW

- 2 -- chaudières à eau à haute température de 15,000 BTU/h
- 1 -- chaudière à eau chaude fonctionnant au gaz d'échappement, 12,000,000 BTU/h
- 2 -- générateurs de vapeur de 13,000 liv. de vapeur par heure, au total

La Commission exploite une usine de filtrage des eaux de consommation pour le compte du ministère des Affaires indiennes et du Nord canadien.

CAMBRIDGE BAY

Centrale diesel de Cambridge Bay
4 groupes électrogènes -- 850 KW au total

FORT McPHERSON

Réseau des services d'utilité publique de Fort McPherson
4 groupes électrogènes -- 750 KW au total

La Commission exploite une centrale électrique diesel, la chaufferie de l'auberge et le service d'eau et d'égout pour le compte du ministère des Affaires indiennes et du Nord canadien.

Operated by the Commission on behalf of the Department of Indian Affairs and Northern Development.

COPPERMINE

Coppermine
3 Units -- 600 KW total

YUKON TERRITORIES

MAYO

Mayo River Hydro Plant
2 Units -- 6,000 HP total

WHITEHORSE

Whitehorse Rapids Hydro Plant
2 Units -- 15,000 HP total

DAWSON

Dawson Diesel Plant
3 Units -- 750 KW total

Water System operated on behalf of the Yukon Territory Government.

AKLAVIK

Centrale diesel d'Aklavik
5 groupes électrogènes -- 470 KW au total

La Commission exploite cette centrale pour le compte du ministère des Affaires indiennes et du Nord canadien.

COPPERMINE

Coppermine
3 groupes électrogènes -- 600 KW au total

YUKON

MAYO

Centrale hydro-électrique de la rivière Mayo
2 groupes électrogènes -- 6,000 HP au total

WHITEHORSE

Centrale hydro-électrique des rapides de Whitehorse
2 groupes électrogènes -- 15,000 HP au total

DAWSON

Centrale diesel de Dawson
3 groupes électrogènes -- 750 KW au total

La Commission exploite le système d'approvisionnement d'eau pour le compte du gouvernement du Yukon.

ONTARIO

MOOSE FACTORY

Réseau des services d'utilité publique de Moose Factory
Centrale électrique, chaufferie centrale, usine de pompage et de filtrage d'eau et système d'évacuation des eaux usées

2 groupes turbo-générateurs à vapeur -- 200 KW
6 groupes générateurs diesel -- 1,300 KW
Puissance globale -- 1,500 KW

3 -- chaudière génératrice de 6,666 liv. de vapeur

COLOMBIE-BRITANNIQUE

FIELD

Centrale diesel de Field
3 groupes électrogènes -- 400 KW au total

ONTARIO

MOOSE FACTORY

Moose Factory Utilities Plant
Central Power, Heating, Water Pumping and Treatment and Sewage Disposal Plants.

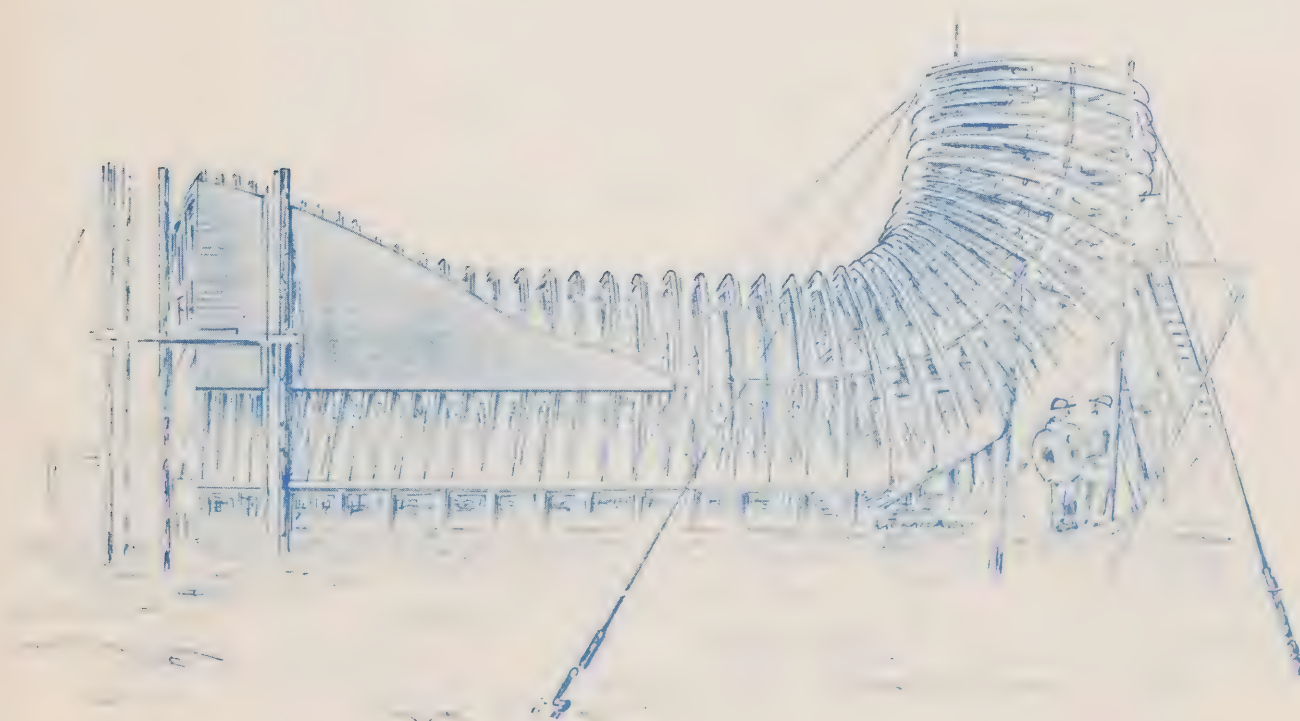
2 Steam Turbines -- 200 KW
6 Diesel Units -- 1,300 KW
Total Capacity -- 1,500 KW

3 -- 6,666 lb. Steam Generator

BRITISH COLUMBIA

FIELD

Field Diesel Plant
3 Units -- 400 KW total



DRAFT TUBE FORMWORK -- TWIN GORGES HYDRO PLANT, TALTSON RIVER, N.W.T.

TABLEAU STATISTIQUE D'EXPLOITATION EN 1967-1968

OPERATING STATISTICS 1967-1968

Plants	Charge de pointe (en kilowatts)	Production brute (en milliers de kilowatts/heure)	d'énergie électrique (en milliers de kilowatts/heure)	Ventes d'énergie calorifique (en 10 ⁹ BTU)	d'eau (en 10 ⁶ gallons)
Net Peak Load (Kilowatts)	Gross Generation KWH x 1000	Power Sales KWH x 1000	Heat Sales BTU's x 10 ⁹	Water Sales Gals x 10 ⁶	
Aklavik	215 (158)	627 (594)	562 (510)		Aklavik
Cambridge Bay	320 (280)	1491 (654)*	1319 (545)*		Cambridge Bay
Coppermine	150 (-)	307* (-)	296 (-)		Coppermine
Dawson	445 (330)	3934 (4920)	1091 (554)*		Dawson
Field	260 (222)	1079 (1027)	955 (913)		Field
Fort McPherson	265 (240)	1148 (955)	1038 (841)	11 (10)	Fort McPherson
Fort Resolution	205 (182)	722 (714)	660 (597)		Fort Resolution
Fort Simpson	615 (600)	2535 (2463)	2175 (2148)	28 (28)	Fort Simpson
Fort Smith	2160 (1792)	10141 (9923)	7541 (6722)		Fort Smith
Frobisher Bay	1740 (1640)	12194 (10879)	9095 (9159)	77 (69)	Frobisher Bay
Inuvik	2420 (2190)	33108 (31757)	9430 (8590)	182 (181)	Inuvik
Mayo (centrale hydro-électrique)	5200 (5288)		17476 (20012)		Mayo Hydro
Courant industriel primaire			11918 (8166)		Industrial - Primary
Courant industriel secondaire			89 (119)		- Secondary
En gros			1058 (1052)		Wholesale
Au détail			1390 (1327)		Retail
Moose Factory	380 (340)	2152 (1884)	3600 (2555)	58 (58)	Moose Factory
Pine Point	840 (576)			28.9 (29.2)	Pine Point
Rivière Snare (centrale hydro-électrique)	14500 (13900)	87202 (89627)			
Courant industriel primaire			42421 (42253)		Snare River Hydro
Courant industriel secondaire			23300 (25753)		Industrial - Primary
En gros			15026 (12682)		- Secondary
Au détail			768 (798)		Wholesale
Taltson (centrale hydro-électrique)	15200 (12800)	67684 (60143)			Retail
Courant industriel primaire			38658 (38699)		Taltson Hydro
Courant industriel secondaire			11412 (6019)		Industrial - Primary
En gros			11278 (9700)		- Secondary
Rapides de Whitehorse (centrale hydro-électrique)	11200 (10500)	59298 (45186)			Wholesale
En gros			29846 (16683)		Whitehorse Hydro
Courant primaire			14478 (12164)		Wholesale
Courant secondaire			10763 (14062)		Primary
					Secondary

RELEVÉ STATISTIQUE

STATISTICAL SUMMARY

	1967	1966	1965	1964	1963	1962	1961	1960	1959	1958	
Nombre de centrales en exploitation	16	15	13	12	11	11	10	10	9	7	No. of Operations
Nombre d'employés	271	256	250	245	203	182	170	150	128	96	No. of Employees
Production d'énergie électrique (en milliers de kilowatts/heure)	247,292	226,713	182,921	160,661	152,459	143,591	137,477	101,262	100,848	87,638	Power Generation (KWH x 1000)
de source hydraulique	34,013	29,127	30,387	31,539	25,433	24,439	22,208	15,692	10,468	3,804	Hydro
de source thermique											Thermal
Achats total	1,921	4,920	—	—	—	—	11	3,051	2,856	3,675	Purchased
(en milliers de kilowatts/heure)	283,228	260,760	213,308	192,200	177,892	168,030	159,696	120,005	114,172	95,117	Total (KWH x 1000)
Charge de pointe (en kilowatts)	54,715	50,462	49,525	35,768	33,303	32,863	29,050	28,170	21,730	20,180	Net Peak Load (Kilowatts)
Ventes d'énergie calorifique (en 10 ⁹ BTU)	356	346	284	286	164	144	129	125	28	—	Heat Sales (BTU's x 10 ⁹)
Vente d'eau (en 10 ⁶ gallons)	179	191	166	135	56	—	—	—	—	—	Water Sales (Gallons x 10 ⁶)
Finances (en milliers de dollars)											Financial (Thousands of Dollars)
Revenu brut	6,556	6,024	5,299	5,016	4,155	3,854	3,988	3,020	2,507	1,481	Gross Revenue
Dépenses	4,423	3,988	3,425	3,189	2,496	2,371	2,050	1,406	1,061	516	Expense
Remboursement de capital	701	673	575	548	521	498	495	569	548	457	Debt Retirement
Intérêts	1,347	1,371	731	751	749	757	775	498	507	231	Interest
Revenu net (déficit)	84	(8)	568	528	389	228	668	547	391	277	Net Income (Loss)



AUDITOR GENERAL OF CANADA

Ottawa, June 21, 1968.

The Honourable Arthur Laing,
Minister of Indian Affairs and
Northern Development,
Ottawa.

Sir,

I have examined the accounts and financial statements of Northern Canada Power Commission and its subsidiary companies for the year ended March 31, 1968. In compliance with the requirements of section 87 of the Financial Administration Act, I report that, in my opinion:

- (a) proper books of account have been kept by the Commission and its subsidiaries;
- (b) the financial statements of the Commission and its subsidiaries
 - (i) were prepared on a basis consistent with that of the preceding year and are in agreement with the books of account,
 - (ii) in the case of the consolidated balance sheet give a true and fair view of the state of the affairs of the Commission and its subsidiaries as at the end of the financial year, and
 - (iii) in the case of the consolidated statement of income and expense, give a true and fair view of the income and expense of the Commission and its subsidiaries for the financial year; and
- (c) the transactions of the Commission and its subsidiaries that have come under my notice have been within the powers of the Commission and its subsidiaries under the Financial Administration Act and any other Act applicable to the Commission and its subsidiaries.

Yours faithfully,

A.M. Henderson,
Auditor General of Canada.

EXHIBIT I

**NORTHERN CANADA POWER COMMISSION
and subsidiary companies**

NOTES TO THE FINANCIAL STATEMENTS

1. The wholly-owned subsidiary companies, The Dawson City Water and Power Company, Limited, The Dawson Electric Light and Power Company, Limited and the Yukon Telephone Syndicate, Limited have ceased to operate. Their assets have been taken over and their liabilities assumed by Northern Canada Power Commission.
2. The Commission administers loans, which amounted to \$101,938,236 as at March 31, 1968, made by Canada pursuant to agreements entered into under the Atlantic Provinces Power Development Act.



AUDITEUR GÉNÉRAL DU CANADA

DOCUMENT I

COMMISSION D'ÉNERGIE DU NORD CANADIEN
et sociétés filiales

REMARQUES AU SUJET DES ÉTATS FINANCIERS

1. Dawson City Water and Power Company Limited, Dawson Electric Light and Power Company Limited et Yukon Telephone Syndicated Limited, filiales dont la Commission est entièrement propriétaire, ont mis fin à leurs exploitations. La Commission d'énergie du Nord canadien a pris en charge l'administration de leur actif et de leur passif respectifs.
2. La Commission administre des prêts au montant global de \$101,938,236 au 31 mars 1968, consentis par le gouvernement du Canada en conformité des accords conclus en vertu de la Loi sur la mise en valeur de l'énergie dans les provinces de l'Atlantique.

Ottawa, le 21 juin 1968

L'honorable Arthur Laing
Ministre des Affaires indiennes
et du Nord canadien
Ottawa.

Monsieur,

J'ai examiné les comptes et les états financiers de la Commission d'énergie du Nord canadien et de ses filiales, pour l'exercice financier terminé le 31 mars 1968. Conformément aux dispositions de l'article 87 de la Loi sur l'administration financière, je déclare que, à mon avis:

- (a) la Commission et ses filiales ont tenu les livres de comptes appropriés;
- (b) les états financiers de la Commission et de ses filiales
 - (i) ont été préparés de la même manière que l'année dernière et en accord avec les livres de comptes;
 - (ii) en ce qui concerne le bilan consolidé, donnent une idée exacte et juste de l'état des affaires de la Commission et de ses filiales à la fin de l'année financière; et
 - (iii) en ce qui concerne l'état consolidé des recettes et des dépenses, donnent une idée exacte et juste de la situation de la Commission et de ses filiales à la fin de l'année financière; et
- (c) les opérations de la Commission et de ses filiales dont j'ai pris connaissance, étaient de la compétence de la Commission et de ses filiales selon la Loi sur l'administration financière et toute autre loi applicable à la Commission et à ses filiales.

Veuillez agréer, monsieur le Ministre, l'expression de ma haute considération.

L'auditeur général du Canada
A.M. Henderson

NORTHERN CANADA POWER COMMISSION

(Established by the Northern Canada Power Commission Act)

AND SUBSIDIARY COMPANIES

ASSETS

	1968	1967
Current Assets:		
Cash	\$ 589,864	\$ 253,362
Accounts receivable	2,218,309	1,693,035
Inventories of maintenance and operating supplies, at cost	1,502,455	1,706,350
Total Current Assets	4,310,628	3,652,747
Bonds held as Consumers' Security Deposits	75,000	75,000
Investment in Canada Bonds, at amortized cost, including accrued interest	-	997,423
Capital Assets, at cost:		
Power plants	30,368,833	29,081,642
Transmission and distribution facilities	7,177,242	6,812,694
Staff dwellings, warehouses and miscellaneous buildings	1,680,902	1,403,004
Communication, transportation and other equipment	866,132	730,704
Projects under construction	2,922,800	1,172,199
	43,015,909	39,200,243
Less: Accumulated depreciation	8,391,535	7,697,271
	34,624,374	31,502,972
Central heating, water and sewerage and fire alarm systems at Inuvik, Northwest Territories	7,381,954	7,003,445
Total Capital Assets	42,006,328	38,506,417
	\$ 46,391,956	\$ 43,231,587

Certified correct:

T. A. Stott
Secretary-Comptroller

Approved:

J. A. MacDonald
Chairman

EXHIBIT II
CONSOLIDATED BALANCE SHEET AS AT MARCH 31, 1968
(with comparative figures as at March 31, 1967)

	LIABILITIES	
	1968	1967
Current Liabilities:		
Accounts payable	\$ 861,149	\$ 488,268
Due on advances from Canada	513,038	757,637
Contractors' holdbacks	81,258	13,740
Total Current Liabilities	<u>1,455,445</u>	<u>1,259,645</u>
Consumers' and other Security Deposits	<u>90,689</u>	<u>92,646</u>
Proprietary Equity of Canada:		
Advances, including \$50,000 for investigation of projects	33,299,593	30,707,023
Equity represented by cost of:		
Central heating, water and sewerage and fire alarm systems at Inuvik, Northwest Territories, financed by parliamentary appropriations	7,381,954	7,003,445
Extension, expansion and improvements of capital assets financed from earnings	757,180	671,256
Reserve for contingencies	2,190,108	2,156,000
Earned surplus	1,216,987	1,341,572
	<u>44,845,822</u>	<u>41,879,296</u>
	<u>\$ 46,391,956</u>	<u>\$ 43,231,587</u>

I have examined the above Consolidated Balance Sheet and the related Consolidated Statement of Income and Expense and have reported thereon under date of June 21, 1968 to the Minister of Indian Affairs and Northern Development.

A. M. Henderson
Auditor General of Canada

The accompanying notes are an integral part of the financial statements.

COMMISSION D'ÉNERGIE DU NORD CANADIEN

(Établie par la Loi sur la Commission d'énergie du Nord canadien)

ET FILIALES

	ACTIF	
	1968	1967
Disponibilités		
En caisse	\$ 589,864	\$ 253,362
Comptes à encaisser	2,218,309	1,693,035
Stocks de fourniture d'entretien et d'exploitation, au prix coûtant	1,502,455	1,706,350
Total des disponibilités	4,310,628	3,652,747
Obligations gardées comme dépôts de garantie des consommateurs	75,000	75,000
Placement en obligations du gouvernement fédéral, au prix coûtant et intérêt courus	-	997,423
Immobilisations (prix coûtant)		
Centrales électriques	30,368,833	29,081,642
Installations de transmission et de distribution	7,177,242	6,812,694
Logements du personnel, entrepôts et bâtiments divers	1,680,902	1,403,004
Outillage de communication, de transport et autre	866,132	730,704
Aménagements en construction	2,922,800	1,172,199
	43,015,909	39,200,243
Moins: Dépréciation accumulée	8,391,535	7,697,271
	34,624,374	31,502,972
Réseaux de chauffage urbain, d'aqueduc et d'égout, et d'avertisseurs d'incendie à Inuvik (Territoires du Nord-Ouest)	7,381,954	7,003,445
Total des immobilisations	42,006,328	38,506,417
	\$ 46,391,956	\$ 43,231,587

Certifié conforme:

T. A. Scott
Le secrétaire—contrôleur

Approuvé:

J. A. MacDonald
Le président

DOCUMENT II

BILAN CONSOLIDÉ AU 31 MARS 1968

(avec chiffres correspondants au 31 mars 1967)

PASSIF

	1968	1967
Exigibilités:		
Comptes à payer	\$ 861,149	\$ 488,268
Intérêts sur avances du gouvernement du Canada	513,038	757,637
Retenues des entrepreneurs	81,258	13,740
Total des exigibilités	<u>1,455,445</u>	<u>1,259,645</u>
Dépôts des consommateurs et autres garanties	<u>90,689</u>	<u>92,646</u>
Avoir propre du gouvernement du Canada:		
Avances, y compris \$50,000 pour enquêtes au sujet des projets	33,299,593	30,707,023
Mise de fonds que représente le coût:		
des réseaux de chauffage urbain, d'aqueduc et d'égout, et		
d'avertisseurs d'incendie à Inuvik (Territoires du Nord-		
Ouest), financé au moyen d'un crédit du Parlement;	7,381,954	7,003,445
de l'extension, du développement et de l'amélioration		
des immobilisations, financé avec les bénéfices	757,180	671,256
Réserve pour imprévus	2,190,108	2,156,000
Excédent de revenu	1,216,987	1,341,572
	<u>44,845,822</u>	<u>41,879,296</u>
	<u>\$ 46,391,956</u>	<u>\$ 43,231,587</u>

J'ai examiné le bilan consolidé ci-dessus et l'état consolidé des recettes et des dépenses qui s'y rapporte, et j'ai fait rapport à ce sujet, en date du 21 juin 1968, au ministre des Affaires indiennes et du Nord canadien.

A. M. Henderson
L'auditeur général du Canada

Les notes annexées font partie du bilan.

EXHIBIT III

NORTHERN CANADA POWER COMMISSION AND SUBSIDIARY COMPANIES

CONSOLIDATED STATEMENT OF INCOME AND EXPENSE FOR THE YEAR ENDED MARCH 31, 1968
(with comparative figures for the year ended March 31, 1967)

Income		1968	1967
Sale of power		\$ 4,234,699	\$ 3,823,859
Income arising from construction, maintenance and operation of facilities for Canada and others		1,076,557	960,731
Sale of heat		1,005,153	994,119
Water and sewerage services		100,152	106,204
Interest		70,800	91,671
Miscellaneous		68,294	47,931
		<u>6,555,655</u>	<u>6,024,515</u>
Expense:			
Operation and maintenance:			
Salaries and wages	\$ 1,833,193		1,574,169
Fuel and lubricants	1,040,671		980,044
Materials and supplies	325,002		264,239
Maintenance and improvements	223,664		263,865
Employees' board and accommodation (net)	202,017		174,503
Travel and removal	107,194		94,845
Maintenance of trucks, tractors, etc.	55,847		46,484
Tools and miscellaneous equipment	32,082		24,975
Plant, line and equipment rentals	27,739		32,600
Telegrams, telephone and postage	24,308		20,841
Insurance	15,187		13,033
Power purchased for resale	14,000		32,641
Miscellaneous	54,832		52,940
		3,955,736	<u>3,575,179</u>
Administration:			
Salaries	390,979		349,077
Office rent	33,295		29,772
Miscellaneous	43,039		34,492
		467,313	<u>413,341</u>
Interest on advances from Canada		1,346,862	1,371,750
Depreciation		<u>701,405</u>	<u>672,876</u>
		<u>6,471,316</u>	<u>6,033,146</u>
NET INCOME (LOSS)		\$ <u>84,339</u>	\$ <u>(8,631)</u>

The accompanying notes are an integral part of the financial statements.

DOCUMENT III

COMMISSION D'ÉNERGIE DU NORD CANADIEN ET FILIALES

ÉTAT CONSOLIDÉ DES RECETTES ET DES DÉPENSES POUR L'ANNÉE TERMINÉE LE 31 MARS 1968

(Avec chiffres correspondants pour l'année terminée le 31 mars 1967)

Recettes		1968	1967
Ventes de courant		\$ 4,234,699	\$ 3,823,859
Revenus provenant de la construction, de l'entretien et de l'exploitation d'installations pour le compte du gouvernement du Canada et d'autres organismes		1,076,557	960,731
Ventes de chaleur		1,005,153	994,119
Services d'eau et d'égout		100,152	106,204
Intérêts		70,800	91,671
Divers		68,294	47,931
		<u>6,555,655</u>	<u>6,024,515</u>
Dépenses			
Frais d'exploitation et d'entretien:			
Traitements et salaires	\$ 1,833,193		1,574,169
Combustibles et lubrifiants	1,040,671		980,044
Matériaux et fournitures	325,002		264,239
Entretien et améliorations	223,664		263,865
Pension et logement des employés (coût net)	202,017		174,503
Voyages et transport	107,194		94,845
Entretien de camions, de tracteurs, etc.	55,847		46,484
Outils et matériel divers	32,082		24,975
Location de centrales, de lignes et de matériel	27,739		32,600
Télégrammes, téléphone et affranchissement	24,308		20,841
Assurances	15,187		13,033
Achat de courant de revente	14,000		32,641
Divers	54,832		52,940
		3,955,736	<u>3,575,179</u>
Frais d'administration:			
Traitements	390,979		349,077
Location de bureaux	33,295		29,772
Divers	43,039		34,492
		467,313	<u>413,341</u>
Intérêts sur avances du gouvernement du Canada		1,346,862	1,371,750
Dépréciation		<u>701,405</u>	<u>672,876</u>
		<u>6,471,316</u>	<u>6,033,146</u>
PERTE OU RECETTE NETTE		<u><u>84,339</u></u>	<u><u>(8,631)</u></u>

Les remarques annexées font partie des états financiers.

Balance as at April 1, 1967		\$ 1,341,572
Net income for the year		84,339
		<u>1,425,911</u>
Transfers to:		
Reserve for contingencies	\$ 123,000	
Equity represented by cost of extension, expansion and improvements of capital assets financed from earnings	<u>85,924</u>	
		<u>208,924</u>
Balance as at March 31, 1968		<u><u>\$ 1,216,987</u></u>

EXHIBIT IV

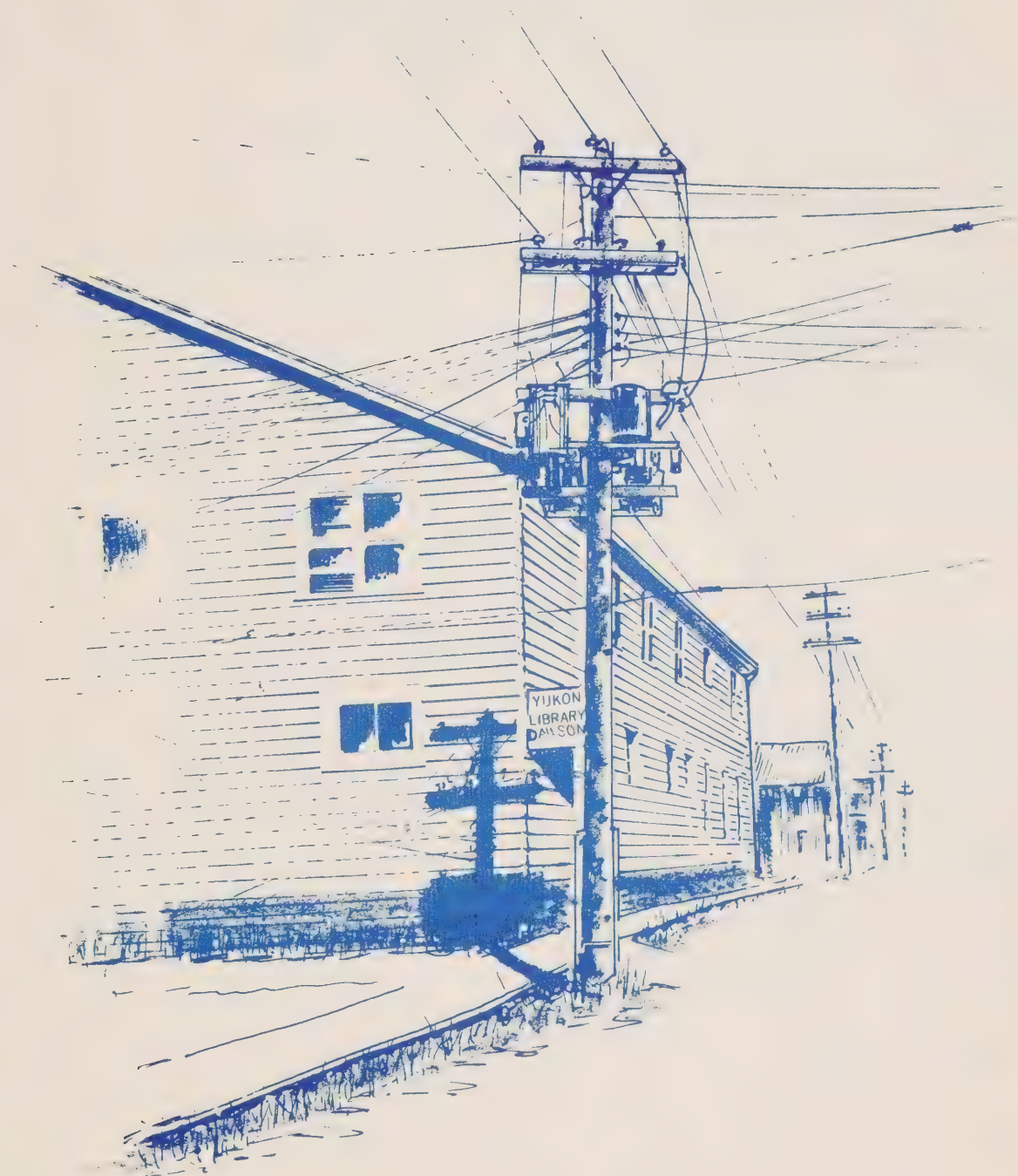
NORTHERN CANADA POWER COMMISSION AND SUBSIDIARY COMPANIES CONSOLIDATED STATEMENT OF EARNED SURPLUS FOR THE YEAR ENDED MARCH 31, 1968

DOCUMENT IV

COMMISSION D'ÉNERGIE DU NORD CANADIEN ET SUBSIDIARE DES COMPAGNIES CONSOLIDER D'EXCÉDENT DES RECETTES SUR LES DÉPENSES POUR L'ANNÉE TERMINÉE LE 31 MARS 1968

Solde au 1 ^{er} avril 1967		\$ 1,341,572
Recettes nettes de l'année		84,339
		<u>1,425,911</u>
Virements:		
Réserve pour imprévus	\$ 123,000	
Avoir-propre équivalant au coût de l'extension, de l'expansion et de l'amélioration des immobilisations et finance à même les gains	<u>85,924</u>	
		<u>208,924</u>
Solde au 31 mars 1968		<u><u>\$ 1,216,987</u></u>

Les remarques annexées font partie des états financiers.



LIBRARY, DAWSON CITY, Y.T.

EXHIBIT V

NORTHERN CANADA POWER COMMISSION AND SUBSIDIARY COMPANIES
STATEMENT OF INCOME AND EXPENSE BY PLANTS
FOR THE FISCAL YEAR ENDED MARCH 31, 1968

	Centrale De La Snare Yellowknife	Centrale De Fort Smith	Centrale De Mayo	Centrale De Fort Simpson	Centrale De White- Horse	Centrale d'Inuvik	Centrale De Frobisher Bay	Centrale De Field	Centr De Fo Resolu
	Yellowknife/ Snare River Plants	Fort Smith Plant	Mayo Plant	Fort Simpson Plant	White- Horse Plant	Inuvik Plant	Frobisher Bay Plant	Field Plant	For Resolu Plan
RECETTES									
Ventes de courant									
Industries	\$418,636	\$ —	\$351,243	\$ —	\$229,581	\$ —	\$ —	\$ —	\$ —
En gros	161,763	—	2,235	—	373,075	—	—	—	—
Au détail	6,659	251,855	35,602	158,499	—	466,362	588,789	64,169	71,
D'une centrale à une autre	—	(95,150)	—	—	—	—	—	—	—
	587,058	156,705	389,080	158,499	602,656	466,362	588,789	64,169	71,
Revenus provenant de la cons- truction, de l'entretien et de l'exploitation d'installa- tions pour le compte de minis- tères fédéraux et autres organ- ismes	—	—	—	—	—	—	—	—	—
Revenus des chaufferies	—	—	—	—	—	454,830	306,536	—	—
Services d'eau et d'égout	—	—	—	—	—	58,574	—	—	—
Intérêts	39,511	3,919	28,758	(6,162)	34,570	(16,491)	4,564	1,440	(1,4
Divers	5,515	2,812	2,544	2,240	3,208	8,419	7,561	2,089	7
Location de matériel d'un centrale à l'autre (loyer net)	—	(500)	—	—	—	(2,500)	3,000	—	—
	632,084	162,936	420,382	154,577	640,434	969,194	910,450	67,698	71,1
DEPENSES									
Frais d'exploitation et d'entretien									
Traitements et salaires	109,611	39,326	76,605	74,310	80,581	314,305	231,259	24,957	36,7
Combustibles et lubrifiants	157	1,750	387	33,049	1,093	365,631	271,971	13,674	12,8
Matériaux et fournitures	3,501	1,387	4,962	(203)	1,305	10,413	8,277	146	5
Pension et logement des employés (coût net)	14,329	2,292	3,925	3,213	5,299	47,764	42,968	1,528	2,6
Entretien et amélioration	10,344	7,707	26,190	16,244	7,072	55,522	33,411	2,133	3,9
Déplacement et transport	10,235	3,049	2,034	6,557	2,714	29,300	14,018	428	8
Entretien de camions, tracteurs, etc.	3,598	2,611	3,399	1,920	3,010	15,837	8,042	225	5
Outils et matériel divers	939	291	553	546	1,173	3,590	940	24	3
Location de centrales, lignes de transmission et matériel	2,419	22	50	662	—	68	—	65	—
Télégrammes, téléphone et af- franchissement	1,675	1,577	1,769	992	2,272	3,888	2,030	208	51
Assurances	1,149	2,016	541	1,222	540	2,673	1,325	457	55
Achats d'énergie pour revente	—	—	—	—	—	—	—	—	—
Divers	5,262	1,144	742	1,455	5,084	9,439	2,122	694	33
Frais d'administration:									
Traitements	—	—	—	—	—	—	—	—	—
Location de bureaux	—	—	—	—	—	—	—	—	—
Divers	—	—	—	—	—	—	—	—	—
Part assignée des frais d'adminis- tration centrale	37,868	21,449	25,382	12,464	35,986	35,390	50,002	6,332	6,54
Intérêts sur avances du gouverne- ment du Canada	239,794	16,541	57,075	10,219	260,074	61,957	190,508	8,775	5,61
Dépréciation (correspondant au remboursement des avances du gouvernement du Canada)	157,935	15,853	277,225	13,015	103,695	29,896	62,116	4,888	3,73
	598,816	117,015	480,839	175,665	509,898	985,673	918,989	64,534	75,79
REVENU NET	33,268	45,921	(60,457)	(21,088)	130,536	(16,479)	(8,539)	3,164	(4,67

DOCUMENT V
COMMISSION D'ÉNERGIE DU NORD CANADIEN ET DES COMPAGNIES SUBSIDIAIRES
CONSOLIDER D'ÉTAT DES RECETTES ET DÉPENSES POUR L'ANNÉE FINANCIÈRE TERMINÉE
LE 31 MARS 1968

Centrale de Moose Factory	Centrale De La Riviere Taltson	Centrale De Dawson	Centrale De Coppermine	Centrale De Cambridge Bay	Bureaux D'Edmonton Et D'Ottawa	Travaux A Forfait	Total
Moose Factory Plant	Taltson River Plant	Dawson Plant	Copper- Mine Plant	Cambridge Bay Plant	Edmonton And Head Office	Contract Work	Total
—	\$485,404	\$ 40,000	\$ —	\$ —	\$ —	\$ —	\$1,524,864
—	—	—	—	—	—	—	537,073
0,646	109,248	110,757	39,888	158,503	—	—	2,172,762
—	95,150	—	—	—	—	—	—
0,646	689,802	150,757	39,888	158,503	—	—	4,234,699
—	—	—	—	—	—	1,076,557	1,076,557
3,787	—	—	—	—	—	—	1,005,153
1,578	—	—	—	—	—	—	100,152
2,186	22,024	(8,570)	(499)	(1,909)	(10,434)	(16,318)	70,800
4,957	240	1,453	13,254	3,180	239	9,828	68,294
—	—	—	—	—	—	—	—
8,782	712,066	143,640	52,643	159,774	(10,195)	1,070,067	6,555,655
1,109	80,515	70,268	17,043	71,900	—	454,660	1,833,193
1,990	482	46,607	13,617	71,022	—	86,424	1,040,671
2,075	2,287	7,361	380	3,066	—	269,458	325,002
8,670	10,916	3,050	6,355	22,796	—	26,280	202,017
3,162	14,867	14,753	868	5,294	—	12,177	223,664
452	5,930	2,494	4,008	5,949	—	19,148	107,194
1,319	2,219	1,574	920	933	—	9,672	55,847
672	61	3,561	1,745	2,776	—	14,886	32,082
0,000	1,298	600	—	20	—	2,535	27,739
518	509	2,935	246	1,247	—	3,926	24,308
644	802	976	46	799	—	1,403	15,187
—	—	14,000	—	—	—	—	14,000
3,082	3,547	3,222	111	243	—	18,251	54,832
—	—	—	—	—	390,979	—	390,979
—	—	—	—	—	33,295	—	33,295
—	—	—	—	—	43,039	—	43,039
2,420	40,595	11,236	7,304	11,376	(485,591)	151,247	—
3,716	492,592	—	—	—	—	—	1,346,862
4,522	20,446	—	—	—	8,083	—	701,405
4,351	677,066	182,737	52,643	197,421	(10,195)	1,070,067	6,471,316
4,431	35,000	(39,097)	—	(37,647)	—	—	84,339

INCOME

Sales of Power
Industrial
Wholesale
Retail
Inter-Plant Sales

Income arising from con-
struction, maintenance
and operation of fac-
ilities for Canada and
others
Sales of heat
Water and sewerage services
Interest
Miscellaneous

Inter-Plant Equipment Rental (Net)

EXPENSE

Operations and Maintenance:
Salaries and wages
Fuel and lubricants
Materials and supplies
Employees' board and
accommodation (net)
Maintenance and improvements
Travel and removal
Maintenance of trucks, tractors, etc.
Tools and miscellaneous equipment

Plant, line and equipment rentals

Telegrams, telephone and postage
Insurance
Power purchased for resale
Miscellaneous

Administration:
Salaries
Office rent
Miscellaneous

Head Office Assessment

Interest on advances from Canada

Depreciation

NET INCOME (LOSS)

1948

In June 1948, the Northwest Territories Power Commission Act was passed by Parliament for the purpose of facilitating the construction and operation of electric power plants in the Northwest Territories for mining and other interests.

The Commission was empowered to obtain loans from the Government of Canada, through the Department of Finance to finance the construction of power developments, at interest rates and amortization periods approved by the Governor-in-Council. The Act provides that such overhead charges and operating and maintenance expenses are to be met on a self-sustaining basis from revenue derived from the operations.

When the Act became effective September 1, 1948 and concurrent with the appointment of the first Chairman, the Commission assumed responsibility of the Snare River Power Project located some 90 miles northwest of Yellowknife, N.W.T., which was being constructed by the federal government (Department of Mines & Resources) and was then nearing completion.

This project was instigated in January 1946 when the Giant Yellowknife Gold Mines Limited approached

the Department of Mines & Resources with a proposal to develop a hydro site on the Snare River some 70 miles northwest of Yellowknife to meet a power requirement of 6,000 hp for mining and milling purposes in the Yellowknife Area. Because of the growing interest in this area the federal government decided to undertake construction of a larger project of some 8,350 hp at a more suitable site on the same river but some 20 miles further north and thus aid and encourage the development of mining in the Yellowknife area.

The Snare River plant and transmission line were commissioned on October 4, 1948 and began delivering power to the first customer, Giant Yellowknife Gold Mines Limited; supply to the town of Yellowknife and the Cominco Limited "Con" mine were connected in 1949 through a short tie line between the terminal of the Snare River transmission line and the Cominco Limited Bluefish-Yellowknife transmission line.

1949

In 1949 the Commission undertook establishment of a central diesel generating plant to supply the Fort Smith, N.W.T. area and replace three small indepen-

HISTORY OF THE NORTHERN CANADA POWER COMMISSION

HISTORIQUE DE LA COMMISSION D'ÉNERGIE DU NORD CANADIEN

1948

Le Parlement canadien a adopté en juin 1948 la Loi sur la Commission d'énergie des Territoires du Nord-Ouest, en vue de favoriser l'aménagement et l'exploitation de centrales électriques pour desservir les exploitations minières et autres dans les Territoires du Nord-Ouest.

La Commission est autorisée à se procurer des fonds du gouvernement du Canada, par l'intermédiaire du ministère des Finances, en vue de financer la construction d'aménagements électriques, à des taux d'intérêt et selon des périodes d'amortissement approuvés par le gouverneur en conseil. La Loi exige que les frais d'amortissement, de fonds provenant de l'exploitation des entreprises, qui sont censées faire leurs frais.

Dès la mise en vigueur de la Loi et l'entrée en fonction de son premier président, le 1^{er} septembre 1948, la Commission prend charge du réseau électrique de la rivière Snare, à quelque 90 milles au nord-ouest de Yellowknife (T. N.-O.), que le ministère des Mines et des Ressources avait aménagé pour le compte du gouvernement fédéral et qu'il était sur le point de mettre en service.

La centrale et les installations connexes ont été mises en chantier en janvier 1946, à la suite de démarches entreprises par la société Giant Yellowknife Gold Mines Limited auprès du ministère des Mines et des Ressources, en vue d'aménager un emplacement de forces hydrauliques situé sur la rivière Snare, à quelque 70 milles au nord-ouest de Yellowknife, pour fournir quelque 6,000 HP de force motrice à des exploitations minières et à des usines de bocardage, aux environs de Yellowknife. En raison de l'intérêt croissant manifesté à l'égard des ressources minières de la région, le gouvernement fédéral décide d'aménager des installations d'une puissance de quelque 8,350 HP sur la même rivière, mais à quelque 20 milles plus au nord, afin de favoriser l'établissement d'exploitations minières dans la région de Yellowknife.

La centrale de la Snare et la ligne de transmission sont mises en service le 4 octobre 1948, et ne desservent au début qu'un seul client, la société Giant Yellowknife Gold Mines Limited; la ville de Yellowknife et l'exploitation minière "Con". de la société Cominco Limited, commencent à être desservies en 1949, grâce à une ligne de raccordement de faible longueur, reliant la ligne de transmission du réseau de la rivière Snare à la ligne de transmission de Bluefish à

dent plants operated by different government departments. A contract was awarded for construction of the powerhouse and a small portion of this distribution system was constructed during the year.

In co-operation with the Dominion Water and Power Bureau, the Commission agreed to consider development of hydro-electric power to supply to the silver/lead mines being redeveloped in the Keno Hill district near Mayo Landing, Yukon, and an engineering survey of possible power sites was undertaken in 1949.

Because of this latter project the Act was amended in March 1949 to extend its provision to include the Yukon Territory.

1950

Equipment for the Fort Smith diesel plant was ordered, the powerhouse building constructed and a small portion of the distribution system was built in 1949, the generating equipment was installed and the distribution system completed in 1950. The plant was commissioned in October by Mr. George Prudham, M.P., Parliamentary Assistant to the Minister of Resources and Development.

1951 and 1952

Construction of the Mayo River Hydro-Electric De-

velopement began in March 1951. During the summer of the same year the Commission requested the Water Resources Branch to undertake investigations with a view to locating a hydro-electric power site to the Whitehorse district. The Mayo River development was completed in November 1952 and power was supplied to the mines in the Keno Hill area and to the townsite of Mayo, the latter through a privately owned company that had previously been supplying the community by diesel generation; this distribution system was acquired by the Commission in the fall of 1956.

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1953

Delivery of power to the Consolidated Discovery Yellowknife Mines Limited over that company's own 34.5 kv wood pole transmission line constructed from the Cominco Limited's Bluefish Hydro Plant to the Discovery mine property some 42 miles to the north-east commenced in April 1953.

1954

During 1954 a powerline carrier telephone system operating over the transmission line between Snare River Power plant and the Yellowknife Terminal Station was installed.

Yellowknife, construite par la société Cominco Limited.

1949

En 1949, la Commission fait construire une grande centrale électrique diesel, pour remplacer les trois petites centrales exploitées par divers ministères du gouvernement fédéral et qui desservait la région de Fort Smith (T. N.-O.). La Commission fait construire la centrale à forfait et une petite partie du réseau est aménagée la même année.

La Commission, de concert avec le Bureau fédéral des eaux et de l'énergie, convient d'étudier l'aménagement d'une centrale hydro-électrique en vue de desservir les mines d'argent et de plomb du district de Keno Hill, près de Mayo Landing (Yukon), qui viennent d'être remises en exploitation; à cette fin, l'étude technique de plusieurs emplacements de forces hydrauliques est entreprise en 1949.

Pour permettre de mettre ce projet à exécution, la Loi est modifiée en mars 1949, de façon à étendre son champ d'action au Yukon.

1950

La Commission passe commande pour l'équipement de la centrale diesel de Fort Smith et fait construire les bâtiments et une partie du réseau de distribution

en 1949; en 1950, les groupes générateurs et le réseau de distribution sont prêts à être mis en service et en octobre, M. George Prudham, député et secrétaire parlementaire du ministre des Ressources et du Développement économique, l'inaugure officiellement.

1951 et 1952

On commence à construire la centrale hydro-électrique de la rivière Mayo en mars 1951; quelques mois plus tard la Direction des ressources hydrauliques procède, à la demande de la Commission à une étude technique en vue de découvrir un emplacement de force aux environs de Whitehorse. La centrale de la rivière Mayo est mise en service en novembre 1952, pour desservir les exploitations minières de la région de Keno Hill et la localité de Mayo, cette dernière ayant jusque-là été desservie par la centrale diesel d'une société privée; la Commission a acheté le réseau de distribution de la société à l'automne de 1956.

1953

En avril 1953, la centrale hydro-électrique de la société Cominco Limited, située à Bluefish, commence à desservir l'exploitation minière de la société Consolidated Discovery Yellowknife Mines Limited, par une ligne de transmission sur poteaux de 42 milles de longueur sous une tension de 34,500 volts, construite par la société minière et reliant la centrale à

1955

An extension to the powerhouse at Fort Smith was constructed to accommodate a fourth generating unit and a 100,000 gallon storage tank was installed so that a lower cost fuel produced by the refinery at Norman Wells, N.W.T. could be used.

Studies and field investigation work were undertaken in the fall of 1955 to determine whether a thermal plant utilizing coal from the Carmacks coal field or a hydro development could best supply the increasing power needs of the Whitehorse area in the Yukon.

1956

The Act was further amended (August 1956) to change the name of the Commission to the "Northern Canada Power Commission", and to empower the Commission to supply public utilities, defined as electrical and thermal energy, water, sewerage and telephone service; in addition, the Commission was empowered to operate in any province of Canada, subject to the approval of the Governor-in-Council and the laws of the province concerned, and provision was made for internal financing of plant expansion or improvement.

Installation of a second 3,000 hp unit at Mayo River Hydro-Electric Plant was approved, and the work

l'exploitation de la mine Discovery, située au nord-ouest de Bluefish.

1954

En 1954, la Commission fait poser des fils téléphoniques sur les pylônes de la ligne de transmission reliant la centrale de la Snare à la station électrique de Yellowknife.

1955

La centrale de Fort Smith est agrandie en vue d'y installer un quatrième groupe générateur et un réservoir d'une capacité de 100,000 gallons, afin d'utiliser le combustible que la raffinerie de Norman Wells peut fournir à bon compte.

À l'automne de 1955, on fait des études techniques et des enquêtes en vue de déterminer si une centrale thermo-électrique à charbon utilisant la houille du gisement de Carmacks conviendrait mieux qu'une centrale hydro-électrique pour faire face aux besoins croissants d'énergie électrique de la région de Whitehorse et du Yukon.

1956

Une nouvelle modification est apportée en août 1956 à la Loi, afin de changer le nom officiel de la Commission en "Commission d'énergie du Nord canadien" et de l'autoriser à fournir les services d'utilité publique, c'est-à-dire les services d'électricité d'origine

scheduled for 1957.

Construction of the 15,000 hp hydro generating station at Whitehorse Rapids on the Yukon River about 2 miles upstream from the City of Whitehorse was approved in July and on-site work commenced in November 1956.

1957

Responsibility for the retail distribution of power in Mayo Landing was transferred to the Commission from the Mayo Light and Power Company accompanied by a substantial reduction in consumer power costs.

The Commission was appointed to administer the Atlantic Provinces Power Development Act enacted by Parliament in 1957 to provide for financial assistance to the Atlantic provinces in connection with construction of thermal electric power plants and high voltage transmission lines for the payment of a subsidy on eastern coal used for production of electricity in any of the Atlantic provinces; the latter feature was initially administered by the Dominion Coal Board and transferred to the Commission in 1965.

Investigations were undertaken into the power requirements at Frobisher Bay, N.W.T.

hydraulique ou thermique, d'eau, d'égouts et de téléphone; la Commission est en outre autorisée à exploiter des ressources énergétiques, n'importe où au Canada, sous réserve de l'approbation du gouverneur en conseil et en conformité des lois des provinces en cause; de nouvelles dispositions de la Loi permettent aussi à la Commission de financer désormais l'agrandissement ou l'amélioration des centrales et installations.

L'installation, en 1957, d'un deuxième groupe de 3,000 HP à la centrale hydro-électrique de la rivière Mayo est approuvée.

En juillet 1956, la Commission approuve la construction d'une centrale d'une puissance installée de 15,000 HP, aux rapides de Whitehorse, à quelque 2 milles en amont de la ville de Whitehorse, sur le fleuve Yukon, et les travaux commencent en novembre 1956.

1957

La Commission prend charge du réseau de distribution d'électricité de Mayo Landing, acheté de la Mayo Light and Power Company, ce qui résulte en une baisse sensible du tarif du courant.

La Commission est alors chargée d'appliquer la Loi sur la mise en valeur de l'énergie dans les provinces de l'Atlantique, adoptée par le Parlement en 1957, et qui prévoit l'octroi de fonds aux provinces de l'Atlantique pour la construction de centrales thermo-

The initial design work for a central power and heating plant and utilidor system of the Inuvik Utility project were well advanced during 1957.

The No. 2 Generating Unit at Mayo River Hydro Plant was placed in operation in December 1957.

1958

Extensions to the powerhouses at Fort Smith and Fort Simpson were constructed during 1958 to accommodate additional generating equipment.

Development of a second hydro-electric power site on the Snare River, designated Snare Falls, approximately 10 miles downstream from the existing plant (renamed Snare Rapids) was approved.

At the request of the Department of Northern Affairs and National Resources the Commission undertook the operation of the power plant and central heating and water supply systems at Fort McPherson, N.W.T. in September.

The Whitehorse Rapids Hydro plant was commissioned in November and power was supplied directly to the Department of National Defence establishments and through the Yukon Electrical Company Limited to consumers in the city of Whitehorse.

The Inuvik, N.W.T. electric generating plant and distribution system was placed in service in December, followed by commissioning of the central heating plant and a portion of the utilidor system in early 1959.

1959

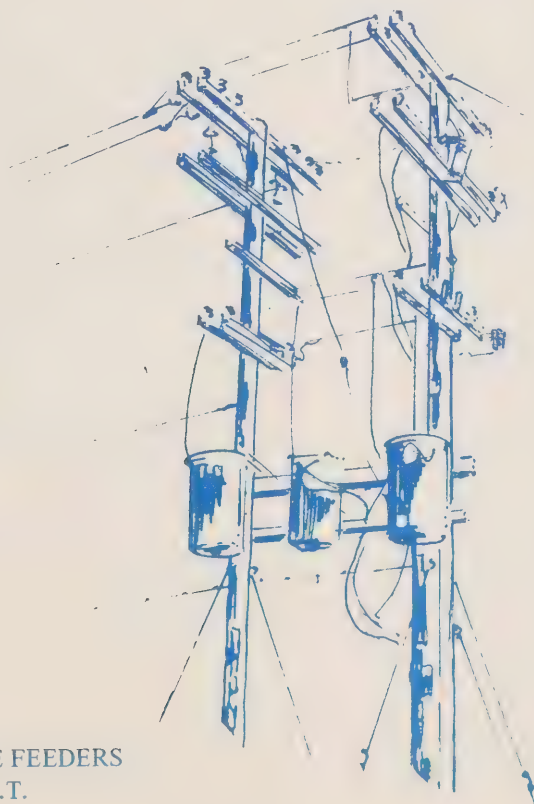
Construction of the Snare Falls Hydro project began in 1959 and an emergency standby diesel plant was built at Yellowknife during the summer.

Under a rental agreement with the Department of Transport the Commission in February 1959, undertook operation of a 1,000 kw diesel plant that had been installed at Frobisher Bay; this was a temporary arrangement pending establishment of a new central generating station upon completion of townsite development plans.

The Field, B.C. diesel generating plant and distribution system were constructed during the summer and fall and commissioned in December.

1960

Studies were carried out in regard to power supply at Fort Resolution and Norman Wells, N.W.T., and in connection with the Trans Canada Highway mainten-



STATION SERVICE FEEDERS
COPPERMINE, N.W.T.

ance establishment in the Rogers Pass area of Glacier National Park. The latter study led to a field investigation of possible hydro sites in the vicinity of Glacier, B.C. in search of an economically practicable development, with negative results.

The Fort Resolution diesel plant was constructed and placed in operation in January 1961.

Initial construction of the Inuvik Utilities system was completed and an additional diesel generating unit (900 KW) was installed in the power plant.

The Snare Falls Hydro-Electric Plant was placed in operation in December 1960.

1961

Additional generating units were installed to complete the Field and Fort Resolution diesel plants. At the request of the Commissioner of the Yukon Territory the Commission sponsored a field investigation and office study of the supply and distribution of power and operation of the water and sewerage systems in Dawson, Y.T., cost of which was shared by the Commission and the Yukon Territorial Government.

1962

Following discussion with the Pine Point Mines, Limi-

ted in the fall of 1961, the Commission undertook investigation of the possibility of developing a supply of hydro power for the Pine Point mining area near Great Slave Lake, N.W.T. A reconnaissance survey in February 1962 indicated a possible site at the Twin Gorges on the Taltson River, some 35 miles northeast of Fort Smith, N.W.T. that would meet the requirements of the Pine Point mining operation and the Fort Smith areas; field investigation of this site and the surrounding area was carried out in the summer of 1962.

Additional diesel units and fuel storage tanks were installed in the Fort Simpson and Fort Smith plants. The Commission assumed responsibility for the establishment of a central heating and power generating station to supply the projected new townsite at Frobisher Bay, N.W.T. Also, at the request of the Department of Northern Affairs, the Commission assumed responsibility for operation of the diesel plant at Aklavik on an agency basis.

1963

Construction of a transmission line between Rae and Yellowknife, and the feasibility of transferring the control of the Snare system from Snare Rapids to Yellowknife were investigated.

électriques et de lignes de transmission à haute tension, et de subventions à l'utilisation de houille de l'Est à la production d'électricité dans les provinces de l'Atlantique; jusqu'en 1965, l'octroi de ces subventions incombait à l'Office fédéral du charbon.

On procède en 1957 à une étude des besoins d'électricité de la localité de Frobisher Bay (T. N.-O.).

La même année, les plans pour la construction d'une centrale électrique, d'une chaufferie centrale et d'un réseau de conduites utilidor à Inuvik sont presque terminés.

En décembre 1957, un deuxième groupe générateur est mis en service à la centrale de la rivière Mayo.

1958

En 1958, on agrandit les centrales de Fort Smith et de Fort Simpson, en vue d'y installer des groupes générateurs supplémentaires.

La même année, la Commission approuve l'aménagement d'une deuxième centrale hydro-électrique sur la rivière Snare à l'emplacement dit des chutes de la Snare, à une dizaine de milles en aval de la centrale de la rivière Snare, devenue depuis la centrale des rapides de la Snare.

À la demande du ministère du Nord canadien et des Ressources nationales, la Commission prend charge, en septembre, de l'exploitation de la centrale électrique et des services de chauffage urbain et des eaux de Fort McPherson (T. N.-O.).

La centrale hydro-électrique des rapides de Whitehorse est mise en service en novembre, ce qui permet de desservir directement les installations et bâtiments du ministère de la Défense nationale et, par l'intermédiaire de la Yukon Electrical Company Limited, la population de Whitehorse.

La centrale électrique et le réseau de distribution d'Inuvik (T. N.-O.) sont mis en service en décembre; la chaufferie centrale et une partie du réseau utilidor sont mis en service peu après, au début de 1959.

1959

On commence à construire la centrale hydro-électrique des rapides de la Snare en 1959; en été, on construit une centrale diesel de secours à Yellowknife.

En février 1959, en vertu d'un contrat de location conclu avec le ministère des Transports, la Commission prend charge de l'exploitation d'une centrale diesel de 1,000 KW qui vient d'être aménagée à Frobisher Bay; ce contrat n'est que temporaire, en attendant la mise



DAWSON CITY, Y.T. (Looking Towards Fifth Avenue)

en service d'une nouvelle centrale électrique pour desservir le nouveau lotissement urbain.

La Centrale électrique diesel et le réseau de distribution de Field (C.-B.) sont construits durant l'été et l'automne, et mis en service en décembre.

1960

On procède à une étude technique au sujet de la fourniture de l'électricité à Fort Resolution et à Norman Wells (T. N.-O.), ainsi qu'au sujet d'un établissement pour l'entretien de la route transcanadienne, près du col Rogers dans le parc national de Glacier. L'étude relative à cet établissement a culminé en une enquête sur place qui a porté sur la rentabilité éventuelle de plusieurs emplacements de force situés aux environs de Glacier (C.-B.) mais aucun de ces emplacements ne s'est révélé rentable.

Construite en 1960, la centrale électrique diesel de Fort Resolution est mise en service en janvier 1961.

Les premières installations du réseau des services d'utilité publique d'Inuvik sont construites et un groupe électrogène diesel supplémentaire, d'une puissance de 900 KW, est installé à la centrale.

La centrale hydro-électrique des chutes de la Snare est mise en service en décembre.

1961

On installe les derniers groupes électrogènes des centrales diesel de Field et de Fort Resolution. À la demande du Commissaire du Yukon, la Commission fait faire une enquête sur place et une étude technique

portant sur la production et la distribution de l'électricité et l'exploitation des services des eaux et des égouts à Dawson (Yukon), dont les frais sont acquittés par la Commission et le gouvernement du Yukon.

1962

À la suite de négociations avec la société Pine Point Mines Limited à l'automne de 1961, la Commission fait faire une étude portant sur l'aménagement éventuel d'une centrale hydro-électrique pour desservir la région minière de Pine Point, située près du Grand lac des Esclaves, dans les Territoires du Nord-Ouest. Un levé préliminaire effectué en février 1962 révèle la présence d'un emplacement aux deux gorges (Twin Gorges), sur la rivière Taltson, et à quelque 35 milles au nord-est de Fort Smith (T. N.-O.), qui répond aux besoins de l'exploitation minière de Pine Point; une étude topographique de l'emplacement et de ses alentours est ensuite effectuée au cours de l'été.

On installe des groupes diesel supplémentaires et des réservoirs de carburant aux centrales de Fort Simpson et de Fort Smith. La Commission prend charge de l'aménagement d'une chaufferie centrale et d'une centrale électrique, en vue de desservir le nouveau lotissement en construction à Frobisher Bay (T. N.-O.), et, à la demande du ministre du Nord canadien, de l'exploitation d'une centrale diesel à Aklavik, à titre d'argent du ministère.

1963

La Commission entreprend une étude portant sur la construction d'une ligne de transmission pour relier la localité de Rae à Yellowknife, ainsi que sur le trans-

A contract for construction of the new Frobisher Bay Central Heating and Power generating station was awarded; construction began in September.

The Taltson River Hydro Project was authorized in July and construction of the access road began in the fall, followed by award of the general contract in December; on-site construction commenced in March 1964.

A 1,000 KW heavy duty diesel unit was installed in the Inuvik generating plant and a major extension of the utilidor system was constructed to serve new federal government residential premises.

1964

A contract for construction of the 175 mile Twin Gorges to Pine Point (via Fort Smith) transmission line was awarded and work began in June.

The new Frobisher Bay central generating and heating plant (comprising a 1,000 KW heavy duty diesel, a 1,500 KW gas turbine with exhaust gas boiler, and two oil fired boilers) was commissioned in March 1964 supplying central heating service to the new water treatment plant and hospital. Operation of the new

fert à Yellowknife de la cabine de commande du réseau de la Snare, qui se trouve à la centrale des rapides de la Snare.

La Commission adjuge le contrat pour la construction de la centrale électrique et de la chaufferie centrale du nouveau lotissement de Frobisher Bay, et les travaux commencent en septembre.

En juillet, la construction de la centrale hydro-électrique de la rivière Taltson est approuvée. À l'automne, on commence à aménager le chemin d'accès et la Commission adjuge les travaux de construction des bâtiments, qui commencent dès mars 1964.

On installe un groupe diesel lourd d'une puissance de 1,000 KW à la centrale d'Inuvik, et l'on entreprend un agrandissement majeur du réseau de conduites utilidor en vue de desservir les nouvelles maisons que le gouvernement fédéral a fait construire pour ses employés.

1964

L'entreprise pour la construction d'une ligne de transmission reliant l'aménagement de Twin Gorges à Yellowknife (par Fort Smith) est adjudgée et les travaux commencent en juin.

La nouvelle centrale électrique et la chaufferie centrale de Frobisher Bay (comprenant un groupe diesel

water treatment plant and the heating and water supply system associated with the Federal Building (formerly U.S.A.F. S.A.C. premises) was undertaken by the Commission under contract with the Department of Northern Affairs and National Resources.

A 900 KW high speed diesel unit was transferred from Frobisher Bay and installed in a temporary addition to the Fort Smith diesel plant to ensure adequate generating capacity pending supply of hydro power from the Taltson River development.

On April 1, responsibility for operation of the utilities plant, (power, central heat, and water and sewerage systems) supplying the Department of National Health and Welfare, Northern Health Services Hospital and environs on Moose Factory Island in the James Bay area of northern Ontario, was transferred from that department to the Commission.

Following a decision to move the operational control centre of the Snare Rapids and Snare Falls plant to Yellowknife a one storey building comprising, control room, office space, and vehicle garage was constructed in Yellowknife in the fall of 1964 and the required additional remote control equipment was placed on order.

lourd de 1,000 KW, un groupe turbo-générateur à gaz de 1,500 KW avec chaudière chauffée par récupération de la chaleur des gaz d'échappement et deux chaudières à mazout) est mise en service en mars 1964, ce qui permet de fournir le chauffage à la nouvelle usine de filtrage des eaux et au nouvel hôpital. La Commission entreprend à forfait, pour le compte du ministère du Nord canadien et des Ressources nationales, d'exploiter la nouvelle centrale électrique et chaufferie centrale de l'Immeuble Fédéral (anciens locaux de l'U.S.A.F. S.A.C.).

Un groupe diesel à grand rendement, d'une puissance de 900 KW, provenant de Frobisher Bay, est installé dans un local temporaire construit à la centrale diesel de Fort Smith, afin d'assurer la production du courant nécessaire, pendant que la construction de la centrale hydro-électrique de la rivière Taltson se poursuit.

Le 1^{er} avril, la Commission prend charge de l'usine des services d'utilité publique (électricité, chauffage, eaux et égouts) desservant les bâtiments du ministère de la Santé nationale et du Bien-être social, de l'hôpital des Services de santé du Nord canadien, de l'île de Moose Factory et de la baie James, en Ontario; l'usine était jusque-là exploitée par le ministère de la Santé nationale et du Bien-être social.

La Commission ayant décidé d'installer à Yellowknife la cabine de télécommande des centrales des rapides

1965

Control equipment and three residences were transferred from Snare Rapids to Yellowknife and the Snare Rapids and Snare Falls plants placed on remote control operation from Yellowknife.

A building to serve as the Control Centre and local administration office, and a stepdown substation were constructed in Fort Smith.

The Taltson Hydro-Electric Development was commissioned on October 29 by the Honourable E.J. Benson, Minister of National Revenue, and the Fort Smith diesel plant was reduced to standby operation in November.

At Frobisher Bay two steam boilers and a 600 KW diesel unit were installed in the central generating and heating plant and a steam line was constructed to supply the Federal Building area.

1966

Operation of the diesel plant at Cambridge Bay, N.W.T. was transferred from the Department of Transport to the Commission on November 1, 1966.

de la Snare et des chutes de la Snare, elle fait construire à l'automne un bâtiment de plain-pied comprenant la salle de télécommande, les bureaux et le garage; entre-temps, elle passe commande pour l'équipement de télécommande.

1965

La Commission fait démonter l'équipement de télécommande et trois maisons se trouvant aux rapides de la Snare pour les réinstaller à Yellowknife, ce qui permet désormais de télécommander de Yellowknife les centrales des rapides de la Snare et des chutes de la Snare.

La Commission fait construire à Fort Smith un bâtiment devant servir de cabine de télécommande et de bureau d'administration, ainsi qu'une station de raccordement et de distribution d'électricité.

Le 29 octobre, l'honorable E.J. Benson, ministre du Revenu national, inaugure les installations hydro-électriques de la rivière Taltson, et en novembre, la centrale diesel de Fort Smith devient une centrale de secours.

On installe deux chaudières à vapeur et un groupe diesel de 600 KW à la centrale électrique et chaufferie centrale de Frobisher Bay; on pose en même temps une conduite de vapeur pour desservir l'Immeuble fédéral et ses environs.

1966

At Dawson, Y.T. the Commission assumed responsibility on October 1 for the distribution of power and water. A new powerhouse was constructed to house 3 - 250 KW diesel units, and a new electrical distribution system was constructed.

1967

On May 4, 1967, the operation of the diesel plant at Coppermine, N.W.T. was transferred from the Department of Transport to the Commission.

In order to impound run off, a rockfill storage dam was built on the upper Taltson River at the outlet of Nonacho Lake.

Construction was begun on the Number 3 hydro unit extension and a diesel standby plant at Whitehorse, Y.T.

A new powerhouse extension was completed at Moose Factory, Ontario and three diesel units were installed.

A 3500 foot extension to the Inuvik Utilidor system was constructed and a 1000 KW diesel unit was commissioned in an extension to the existing powerhouse.

Le 1^{er} novembre 1966, la Commission prend charge de la centrale diesel, à Cambridge Bay, dans les Territoires du Nord-Ouest, laquelle était jusque-là exploitée par le ministère des Transports.

La Commission se charge, le 1^{er} octobre, de la distribution de l'eau et de l'énergie électrique à Dawson, au Yukon. Elle y construit un nouveau réseau de distribution électrique et une nouvelle centrale qui sera équipée de trois groupes électrogènes diesel, chacun développant une puissance de 250 KW.

1967

Le 4 mai, la Commission prend charge de l'exploitation de la centrale diesel de Coppermine (T. N.-O.), administrée jusque-là par le ministère des Transports.

Aux fins d'une meilleure utilisation du débit de l'eau, un barrage en enrochement est construit en amont de la rivière Taltson, au débouché du lac Nonacho.

La Commission met en chantier les travaux de construction de la centrale diesel de secours et de l'annexe n^o 3 devant recevoir une génératrice hydro-électrique, à Whitehorse (Yukon).

L'annexe à la centrale de Moose Factory (Ont.) est terminée et trois groupes diesel y sont installés.

On prolonge de 3,500 pieds le réseau utilidor d'Inuvik et le groupe diesel de 1,000 KW, installé dans l'annexe de la centrale, est mis en service.

—NOTES—



thermal plant

hydro plant

utility plant

transmission line

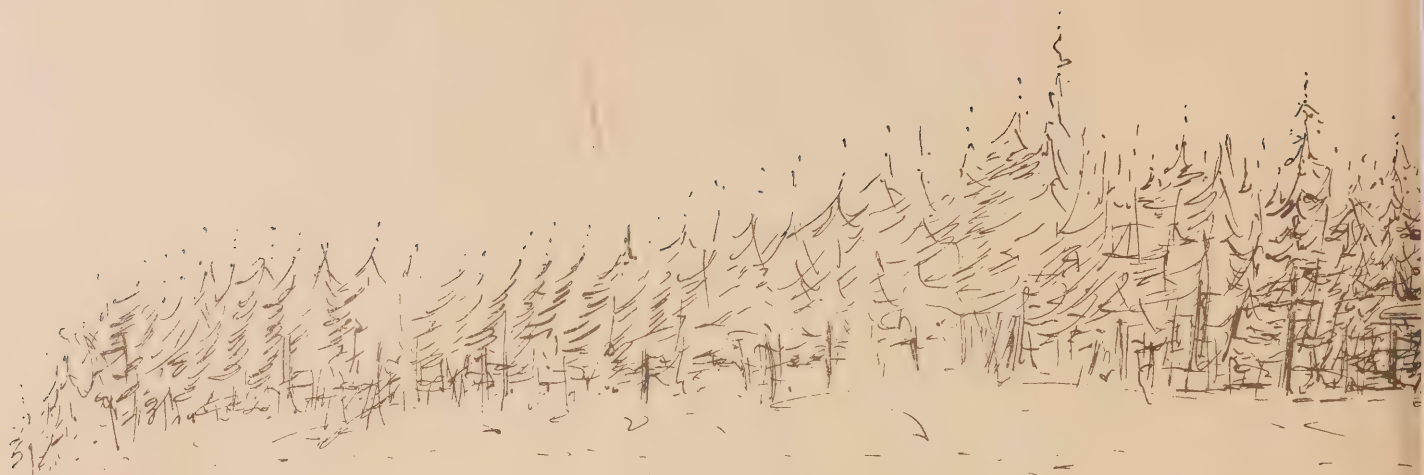
highway

railway

CANADA

POWER

COMMISSION



Airlifting construction equipment and material
to Nonacho Storage Dam Site, Jan. 1968.

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